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## ORIGINAL LECTURES.

### DIATHESES AS APPLIED TO SURGERY. GANGRENE IN ITS VARIOUS FORMS. REMOVAL OF A GANGRENOUS CANCER.

*A Clinical Lecture, delivered at the Philadelphia Hospital.*

BY ERNEST LAPLACE, M.D.,

PROFESSOR OF PATHOLOGY AND CLINICAL SURGERY IN THE MEDICO-CHIRURGICAL COLLEGE; VISITING SURGEON TO THE PHILADELPHIA HOSPITAL, ETC.

[Reported by W. A. NEWMAN DORLAND, M.D.]

GENTLEMEN: There is at present a dearth of surgical material in our wards, and in view of that fact I desire to speak, during a portion of my hour, upon the general question of diatheses, especially as applied to surgery. There are two words, "*diathesis*" and "*cachexia*," which are frequently employed by all of us, but which to many are very indefinite in their meaning. Especially is this so with students, and often it is long before they acquire an accurate knowledge as to what is understood by these terms. It is well here, as elsewhere, to possess always fixed ideas as to the meaning of technical terms. The word "*diathesis*" comes from two Greek words, and means "I dispose" or "pre-dispose." The word "*cachexia*" also comes from the Greek, and means a "bad existence." Therefore, a diathesis is an inherited predisposition to a certain disease, while a cachexia is an acquired condition in which the body has lost its former normal state from having passed through some pathological condition. For instance, we speak of the malarial cachexia as existing in an individual who, though not suffering from malaria at the time, still has the appearance of having had that disease; while we know that a child the offspring of tuberculous parents is born with the so-called tubercular diathesis. From time immemorial it was evident that parentage had something to do with the condition of health and of disease as occurring in the offspring. Especially has this been marked among the lower animals, and if it be true here, how much more forcible must it be in man who is the paragon of animals! Also it is true that civilization is to man what domestication is to the inferior animals.

With this introduction let me say a few words regarding the various diatheses with which we are acquainted. The one we most frequently speak of is the tubercular diathesis, a term which is indiscriminately used with tuberculosis, scrofula, and scrofulosis. Let me establish here what we mean by the tubercular diathesis. A child born of parents who have had or who have inherited tuberculosis, need not have any evidence of the disease itself in order to possess the tubercular diathesis. The appearance of children with this diathesis is characteristic. Generally they are bright children, fair, with blue eyes and transparent skin, the marvel of the neighborhood,

never very strong, and irritable in disposition. They are only waiting for the occasion to develop tuberculosis. Now suppose that two children receive a fall, the one a healthy child, and the other one of these bright children. The healthy child will suffer a contusion of his knee which will be well in two or three days. Not so the other child. The contusion is followed by a swelling in the knee-joint, and the child develops a "white swelling," or tuberculous disease of the joint. Both of these children had been breathing the germs of tuberculosis since birth, and the germs had not developed because there was not a suitable condition of the system. Now the one child falls, and from this slight cause the development takes place, and the disease manifests itself, whereas, in the healthy child the germ still resists development.

Now, what do we understand by scrofulosis? A child with scrofulosis is one with tuberculosis of its lymphatic glands. From the moment the symptoms of scrofula appear, the child is tuberculous, for the germs have begun to develop within the glandular system. There are no reliable cases on record to warrant the belief that a child is ever born with fully developed tuberculosis in its system. It must, therefore, be born with the tubercular diathesis, to develop sooner or later tuberculosis in one of its forms; either as scrofulosis, or tuberculosis of the lymphatic glands; as "white swelling," or tuberculosis of the knee-joint; as tubercular meningitis; as cold abscesses in various parts of the body; or finally, later in life as that most fatal development of tuberculosis, tuberculosis of the lungs. There are many among us who, if they lived according to the laws of hygiene, would never develop tuberculosis; but the most of us, if placed under improper hygienic conditions, would contract the disease from the development of the germs which we now breathe with impunity. It is possible, thus for a person who has not the tubercular diathesis to develop the disease if the proper soil is acquired, and this soil is called the cachexia.

Leaving, now, the question of tuberculosis, let us take up that of syphilis. Syphilis is also a condition in which a diathesis exists, but unlike tuberculosis the child may be born with the affection fully developed. Cancer is another affection exactly in the same condition, so far as development is concerned, as syphilis. There are cases on record of children who have been born with fully developed cancers of the mesentery. These cases, though extremely rare, are sufficient to prove the assertion. The malarial poison, the poison of syphilis, tuberculosis, etc., all starting as cachexiæ may manifest themselves as diatheses in our children. Suppose now that a person who is perfectly healthy acquires tuberculosis. He will very probably give the diathesis to his offspring.

What, then, is the difference between a person who has the tubercular diathesis and one who has not? It is purely a chemical difference, possibly modified by tem-

perature. Since we know to-day that the tuberculous condition is due to a peculiar seed, the tubercle bacillus, falling upon a suitable soil, just as a certain seed falling into the ground will develop a particular plant, or as one soil is suitable for the development of wheat, and another for the development of corn, so, I say, in these cases the only difference is one of a chemical nature; the soil not being suitable to the development of the germ in the one, and being suitable in the other. There is a true chemical difference in the albuminoids of the two persons, a difference at present inappreciable to chemists, but which, judging from the present state of investigations, will shortly be discovered.

Gentlemen, this is no hypothesis, but we are speaking of something which can be demonstrated as clearly as that two and two make four. If we take a proper preparation of agar-agar and add to it four per cent. of glycerin, the tubercle bacillus will grow and develop; but if we add six or eight per cent. of glycerin, the tubercle bacillus will not grow. The agar-agar preparation with the four per cent. of glycerin is the tuberculous child, and the germ grows; the agar-agar solution with the eight per cent. of glycerin is us, on whom, though the germs fall, they will not grow. Therefore, since these things can be demonstrated in any bacteriological laboratory, cannot any logical mind draw the inference that the same thing will occur in the individual?

One more fact to illustrate this idea. Diseases are different because the germs which produce them are different, though the soil be the same. Eight years ago, in the Academy of Sciences of Paris, Pasteur had just discovered a method of inoculating for splenic fever in animals. It was known that splenic fever would not attack fowls, though it did attack both beasts and man. On the other hand, Pasteur had noticed that the germ of the disease at the temperature of the human body was deadly, while if the temperature was raised a few degrees higher the germ became inert. Then the thought occurred to him to investigate the temperature of fowls, and he found that it was  $101^{\circ}$ , the same temperature at which the germ became innocent. At once he reasoned that this was why the germ would not grow. He took the fowl and put it into cold water, and reducing the temperature in this way, he introduced the germ, which now grew and killed the fowl. What could be more conclusive than the effect of temperature in producing disease? Thus two men get a wetting; the one develops a pneumonia, because his temperature has become reduced, while the other escapes, his temperature remaining normal at the time of exposure.

Let us now see what is to be done from a remedial standpoint. What should be done to preserve ourselves against these conditions? The first one to turn our minds into the right direction was Jenner, the discoverer of vaccination, or the introduction into the body of a certain amount of a living chemical substance which when developed in the body causes the soil to become barren. This being the case with smallpox, what a great field lies before us, as many affections are due to microorganisms capable of development, but which may be prevented from developing by altering the condition of the soil! What great opportunities are afforded us for studying these germs and their processes of develop-

ment! The other conditions which are acquired from vices or alcoholic excesses may easily be removed, and the time may yet come when Addison's allegory, the Vision of Mirza, will prove indeed only a dream. Instead of the seventy broken columns, with the path beset with snares and pitfalls, there will be one hundred complete columns, and a perfect highway along which man may travel happy and healthy to the Elysian fields beyond.

The next patient shows a condition of gangrene—a very important subject. Gangrene is always due to some interference in the circulation, either arterial or venous, or often both. If arterial, we have the dry form of gangrene; if venous, the moist form; if due to interference with both arteries and veins, we have capillary gangrene, such as occurs in old age, or as a result of a severe bruise, or following that condition of the system produced by certain remedies, as ergot. Here is this old woman suffering from senile gangrene. Her circulation is too weak to afford proper nourishment to the toes. The patient came into the hospital three days ago in a pretty fair condition. Very often this disease is self-limiting, and so we waited; but there does not seem to be any tendency to self-limitation. The proper treatment in these cases is amputation, not close to the gangrenous area, but far from it. The amputation here should be just below the knee. The patient has developed septicæmia, and is now suffering from septic pneumonia, and operation would probably not be followed by success. Yet if she would give consent—which she positively refuses to do—I would operate. Gangrene always results from cessation of the circulation, and is a process of putrefaction and fermentation. The odor is due chiefly to sulphuretted hydrogen. There is also developed carbonic acid, which we can see coming in bubbles from under the skin.

Here is another patient who presented on entrance a condition of gangrene. She suffered a severe fall and, as a result, experienced great contusion of the parts around the anus, sufficient to impair the vitality and permeable condition of the bloodvessels. There is sloughing of the parts, which is nothing more nor less than gangrene. When this slough comes off we call it a sphacelus. The wound to-day looks very healthy.

The next case is the one I brought before you when I was speaking of metastasis in cancer. To-day I bring him here to show you another case of gangrene, and to operate upon him. The man is young, and the metastasis in his groin is rapidly progressing; therefore I shall try to remove most of the disease, and, by the application of proper remedies, endeavor to destroy the disease-germ as far as possible. Around the ulceration you will notice these large, dark spots, which are gangrenous in nature. The poison developing there is directly interfering with the circulation. Just as we see the chemical poison of a snake-bite, or the poison of ergot or of carbonic acid producing gangrene, so here we see the poison of disease causing his gangrene. Therefore, remember that microorganisms may also excite gangrene when growing in certain tissues, as may be seen in the case of a carbuncle, which is due to the staphylococcus pyogenes aureus.

While waiting for the case to be etherized, I will say that the cure of cancer should not be considered hopeless. At the recent Congress of Surgeons in Berlin

there were reported six undoubted cures of epithelioma and sarcoma by the following treatment. About twenty years ago a French surgeon, still living, had a case of cancer of the breast which was too far advanced for operation. As the surgeon was not very cleanly, not being acquainted with our methods of antiseptics, the patient developed erysipelas, and after nearly dying, recovered. About a month later she had a second attack of erysipelas, after which the growth took on a benign appearance and progressed to recovery. Since then two surgeons have been inoculating cancerous patients with the germs of erysipelas, and now report the cure of six cases.

The patient now being ready I shall proceed to cut away with scissors as much of this gangrenous tissue as possible. The femoral artery is in this region, and is probably not far from the inroads of the disease. I shall therefore be very careful in the use of the curette.

## ORIGINAL ARTICLES.

### CIRCUMCISION.

BY E. R. PALMER, M.D.,  
OF LOUISVILLE, KY.

In offering for consideration the subject of circumcision I am certainly not actuated by the idea of novelty. The veil of mystery of old that has never been lifted, that still enshrouds the reasons that impelled Abraham to institute this operation among the chosen people; the persistence with which the rite has been performed upon the males of that people in epochs of prosperity and in ages of adversity should have given us a definite literature of the subject from a surgical standpoint. That this is not the fact, and that crudities still cluster around the operation, whether done as a religious rite or as a surgical necessity, are among the reasons that have suggested this paper.

Before entering into a consideration of the purely scientific or surgical aspect of my subject, its relations to the laws of heredity and evolution may well be considered. The development of new species by the selection and cultivation of "sports" in the botanical kingdom is a common occurrence. In the animal world the once famous Ancon sheep of New England were bred from a bench-legged "accident of birth." The tailless and the hairless families of dogs still further illustrate the power of heredity by selection. Among men the transmission of supernumerary toes or fingers through generations, a transmission of tendency to redundancy, is probably the best of the few instances I can choose for illustration, unless the growing tendency to early baldness, which is clearly hereditary, may be pointed to as presaging a coming family of hairless humanity.

What of circumcision? Has this most venerable rite had any effect on the length of the normal

Hebrew prepuce? In reply I will quote from two recent editorials in the *New York Medical Journal*.

"Are Mutilations Inherited? *The Lancet*, in a recent issue, discusses this subject and refers to some recent studies by Professor Weismann on the subject. The distinguished professor cut off the tails of nine hundred and one white mice of successive generations, but in no case was a white mouse born without a full-sized tail. It has always been something of a puzzle that Jews should, after thousands of years of circumcision, still bear infants with long prepuces. Darwin refers to the fact, as noted by Gordon, that different races of men have from time immemorial knocked out their upper incisors, cut off joints of their fingers, made holes of immense size through the lobes of their ears or through their nostrils, tattooed themselves, made deep gashes in various parts of their bodies, and yet there is no reason to suppose that these mutilations have ever been inherited.

"It must be conceded that, in the higher mammals, at least, mutilations are rarely, if ever, transmitted."

"Dr. Levy, a dentist of Stettin, has written to the editor of the *Archiv für pathologische Anatomie und Physiologie und für klinische Medizin* an account of some occurrences in his own family that have a bearing, he thinks, on a question raised by Professor Weismann at the sixty-first 'Versammlung Deutscher Naturforscher und Aerzte'—that of the hereditary transmission of acquired peculiarities, such as the lack of a foreskin in Jews. He states that, like his father before him, he was born without a foreskin—as he expresses it, '*regelrecht beschnitten*'—furthermore, that this was the case with his four brothers also, who died in childhood. An occasional natural *apelle* is to be met with among Gentiles, but this, of course, raises no question of heredity; such a group of them as Dr. Levy's communication mentions is a different matter, however, although not a very convincing evidence of evolution."

In my personal experience I can report a single case, that of a young man of Jewish lineage who came to me with a stricture. On exposing the penis an excessively redundant prepuce presented. In answer to my query, the young man said that when he was born his father lived in the country, in a sparsely settled region, where no one could be found to perform the rite. The cases in the Levy family raise another question whose answer I think readily explains the peculiarities. Do all baby boys left uncircumcised grow to man's estate with redundant foreskins? In my opinion the answer is, Not more than two-thirds. How is this to be explained? Boys are born with adherent prepuces as puppies are with closed eyes—a normal evolution of the parts should give a loose, freely retractable prepuce, covering about half the glans during rest. This is the typical evolution of these parts. Sometimes at one extreme the organ in the uncircumcised, except for the absence of scar marks cannot be told from one that has been operated upon, a condition that has by some surgeons been attributed to excessive masturbation in early youth. In others a prepuce closely adherent to the glans, or congenital stenosis of the preputial orifice may be observed. Probably each of us has seen adults presenting the latter condition where a ballooning of



the preputial sac occurred on any attempt at free urination.

Should boy babies be circumcised? In most cases they should. But as done by the *mohel* the operation is needlessly painful, occasionally fruitful of permanent harm, and sometimes dangerous to life itself. In examining young men of Jewish families I have a number of times noted the removal of the tip of the glans itself, leaving behind not only a troublesome traumatic stenosis, but what is worse, possible barrenness, whilst cicatricial bands and disfiguring scars innumerable have been observed again and again. How should the operation be done?

In very early life it is an exceedingly simple operation. All that is needed is to assist nature in the normal evolution of the parts. The proper operation lies between two extremes. It is not necessary to remove tissue, nor will ordinary divulsion with forceps suffice. The operation of splitting the upper surface well back on a grooved director with a pair of scissors is all that is necessary, no stitching being called for, and only a simple antiseptic dressing is required. I grant with others that this is on the adult an exceedingly unsurgical procedure as a rule, leaving as it does useless and unsightly ears on either side. Not so, however, with the babe. In the adult the evolution of the parts is complete; in the babe the operation acts like the woodman's tree-belling. Beyond the base of the slit evolution ceases and a scarless *apelle* is the result. I first saw this operation done eighteen years ago, and I had occasion the other day to examine the babe, now grown. The result was all that could be desired. I have done the operation many times in later years, and am so far pleased with the outcome. As I said before, this method is usually an unsurgical procedure in the adult. Occasionally one presents with a scant but very tightly fitting cover, and here splitting may be indicated. I believe that were the ritualist, the *mohel*, to split freely only, and then thoroughly separate the adherent surfaces, giving proper directions to the nurse for keeping them so, he would accomplish safely, quickly, and almost painlessly all that reason and science at least could ask. In after years, I question if the subject would be distinguishable from one operated on by the old method, except by the superior beauty of the result.

It would consume too much time to go into a detailed account of the various neuroses of childhood that are attributable to a long foreskin. Their recognition makes it imperative that every doctor should examine all boy babies in his charge, whether sick or well, and see that the condition if existing be removed.

When should circumcision be performed in the adult? In what class of cases? First, in all men

who, otherwise sound, possess a long, non-adherent prepuce that is so narrow at its orifice, or so glove-fitting in its nature as to prevent easy retraction while in a state of complete erection. Second, in cases of redundant prepuce, where only extreme cleanliness and care can prevent frequently recurring excoriations or ordinary balanitis; and, finally, in the group of cases where, notwithstanding that the prepuce is freely movable, full erection fails to uncover the glans.

The following conditions call for the operation in disease: First, preparatory to urethrotomy in gleet with stricture, where a long, close, and troublesome foreskin constantly projects itself into the operator's way. Second, in cases with chronic herpetic and balanitic tendencies. Third, in *syphilis*, where (a) the chancre may by such an operative procedure be removed, and where (b) syphilitic hyperplasia of a general and extensive type produces phimosis or furnishes in useless tissue a nidus for the further evolution of poison, it being a matter of frequent observation that extreme syphilitic infiltration is no obstacle to ready union after operation.

Finally, shall we circumcise in phimosis complicated with chancroids? I confess that I have in the past been often at sea in such conditions. Influenced by the teachings of authorities I have again and again in spite of extreme care had chancroids escape control and do much harm under a tight phimosis. Now, in many cases, I have by operating early not only avoided this accident but cut short the disease.

When shall we operate in these cases? The answer is found in the condition of the groin. If the lymphatic glands are not involved the operation may be safely performed. If hot, rapidly advancing adenitis exists, to operate would be to assume a grave responsibility, yet even in such cases with our present increased knowledge of the laws and control of sepsis I would frequently fear the knife less than the disease itself, concealed deep beneath the fixed and swollen foreskin. In the last few months I have operated in such cases four times, using the extreme care in the matter of quick cauterization and antiseptic after-treatment, and in such cases the result has been all that could be desired. In the last case, a young Irishman of not over-cleanly habits or occupation, the excision showed a large, gray suppurating sore that had just destroyed the frænum. Cauterization with pure carbolic acid was done, the wound was washed with bichloride solution and dressed with iodoform. Two days later there suddenly appeared in the left groin a huge bubo—a so-called sympathetic bubo—which almost as suddenly disappeared under the pressure of a spica bandage. The healthy tissue of the cut united nicely, and though the sore was some weeks



in healing, no new infection followed. This is typical of my other cases.

There is a group of cases that comes under this class about which there should not be a moment's hesitation. Every city practitioner meets with them. They present on the free edge of a long prepuce grayish ulcers or often, at first, fissures only, sometimes single, sometimes multiple, but with a marked tendency to extend and to resist treatment. When the foreskin is in place, they are usually concealed in a fold. To expose them it is necessary to retract the part partially, which tears them open and tends to increase their extent. I formerly wrestled with such cases for a month or two, but now by immediate circumcision the cases are not only at once cured but the disease is forever afterward prevented from returning.

I shall not weary the reader with general details of operative procedure, but will emphasize only a few of the important points.

Immediately before operating in cases of gleet, wash out the urethra, by means of a Jacque's catheter, with a hot 1-to-15,000 bichloride solution. In cases of balanitis or excoriation dress the parts twice daily for several days before the operation, with cotton wet in saturated solution of boric acid. In case of chancroids, touch every visible sore with pure carbolic acid just before operating, and in all cases cleanse the parts and surroundings very thoroughly with hot 1-to-2000 bichloride solution, being especially careful to purify thoroughly the balanopreputial fold. Chloroform or ether need never be used; 4-per-cent. cocaine solution injected into and beneath the skin with a hypodermic syringe and incarcerated by the Corning method is sufficient. In applying your rubber for this purpose follow the Esmarch method. It will give a bloodless operation.

A familiar problem has been how to cut both skin and mucous membrane at the same time. It is an idle and fallacious problem. In some cases, for instance of chronic balanitis, very little mucous membrane and more skin is desirable. By trimming the mucous membrane after removing the skin one is enabled, looking always to the preservation of the frænum, to prevent bridling at that point during future erections. Like a tailor fitting the sleeve to a garment the surgeon should cut diagonally, beginning close to the glans on the dorsum and shading out to a lengthy frænum below. Speaking of cutting both layers at once, it is of especial importance to recognize that not two but three coats must be cut if a neat operation with speedy union is the aim. After trimming the mucous layer, and just before introducing the stitches, the connective tissue in the bottom of the wound should be seized with a pair of small dressing forceps, drawn

outward and then with scissors be carefully clipped away around the entire circumference of the floor. Where this is neglected the now useless tissue will push outward between the stitches and, later, leave a ring of induration that is a long time in finally disappearing. In the matter of stitching, having tried both the interrupted and continuous suture, I have found that after removal of connective tissue from four to six interrupted silk stitches are all that is needed. It is the rule with some excellent surgeons always to destroy the frænum. Not only should this not be done, but, so far as possible, where it has by previous accident been ruptured, it should be restored.

What is the frænum? What are its functions? In the mechanism of erection while the corpus spongiosum enlarges at its two extremities, its erection is chiefly characterized by *elongation*, carrying with it the cavernous bodies that at the same time expand laterally to give increased circumference to the organ. When the penis is flaccid the scrotum is in most cases pronouncedly pendulous. In erection the testicles hug closely to the region of the bulb, for the frænum has done its duty and carried upward with the ascending glans the scrotal raiment of the now fully erect organ. To destroy wholly the frænum entails inevitably a diminution in the size of the organ during erection. Nor is this the only office of the frænum. In the introduction of the cocaine during the cutting, trimming, and sewing, one point is always painful—the frænum. Why? Because it is the centre of penile sensation. Because, more than the entire surface of the glans does it possess that exquisite sensitiveness with which the bulbs of Krause endow these parts. During erection not only does it draw upward the lax scrotum as a covering for the organ, but its two edges acutely sensitive and now thoroughly tense, like vocal cords, voice the passion that overpowers. My first stitch looks always to the preservation or restoration of this part.

In former years, circumcision in the adult meant a week, perhaps more, of confinement in bed and room. Under modern methods not an hour need be lost from business. This is in part due to the substitution of local for general anæsthesia, but mainly to the antiseptic precautions used, including dressings, of which I shall in conclusion say a few words.

I spoke a while ago of the thorough use of a 1-to-2000 solution of bichloride in the preparatory cleansing. From a brilliant young Kentuckian, Dr. John Young Brown, I have learned the value of absolute dryness during the operation and in the after-dressing. Formerly I encountered frequent and annoying tumefaction of the adjacent parts, which I thought was due to the cocaine. At Dr. Brown's suggestion I operated and dressed dry, and have

never encountered that trouble since. Even in case of hæmorrhage, which is, however, rarely a factor in the operation, the cotton should be absolutely dry. Like others I am not opposed to blood in dressings if it is *clean* blood. A little oozing all around the line is not objectionable. After stitching, a piece of dry, aseptic gauze, four inches long and an inch and a half wide, covered with iodoform and boric acid, and spread on a clean towel, is laid under the frænum, brought up around the cut, right and left, to the dorsum and trimmed with scissors. Over this a strip of absorbent cotton, three-quarters of an inch wide, is applied. Next, a Maltese cross of dry gauze, with a central hole for the meatus, is applied, and then a similar cross of rubber tissue, and the whole bandaged snugly in place. A waist belt, a jock strap, and a bunch of cotton, to cover the glans, well dusted with boric acid, complete a dressing that permits the subject to go to work at once at any ordinary vocation. By directing the patient to retract the dressing on urinating and to absorb the final drops with a soft cloth this original dressing may be left on five days. When the stitches are removed the parts should be dusted with boric acid, a loose pledget of cotton wrapped around them, and the patient discharged.

Occasionally, owing to oozing of blood, it may be found necessary to apply the dressing too tightly for permanency. In such cases an extra one-inch roller may be applied over the permanent dressing, to be removed some hours later without disturbing the dressing proper.

#### THE CAUSES AND TREATMENT OF PNEUMONIA.<sup>1</sup>

BY J. M. G. CARTER, M.D., Sc.D., Ph D.,

OF WAUKEGAN, ILL.

FELLOW OF THE AMERICAN ACADEMY OF MEDICINE; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION, ETC.,

PNEUMONIA is one of the diseases best known to the medical profession, but that a disease is well known and easily diagnosed does not necessarily imply that it is thoroughly understood. When a disease is said to be thoroughly understood, it is meant that its etiology, its processes, or pathological modifications, its sequelæ, and its proper treatment are known and accepted as settled by the profession. It was formerly supposed that idiopathic pneumonia was due to some atmospheric influence which, by checking the peripheral circulation, turned the blood-current with greater force to the lungs, the result of which was congestion and inflammation. This is still considered the pathological process, but the question of etiology has given rise to some discussion, and, in many minds, to doubt.

The germ theory, which is accepted as the explanation of many diseases, has been advanced to explain the origin of pneumonia. Since the discovery of the peculiar form of bacteria in the lungs of persons dead from pneumonia, a discovery made by Friedländer and Frobenius, much thought has been given to the bacterial theory of the disease. Six different varieties of bacteria have been mentioned by Bremner as causing this disease, and others have been mentioned by later writers. The diplococcus of Fränkel has lately been shown to be present in most cases of pneumonia, especially croupous pneumonia. Wolff found it in ninety-four per cent. of the cases examined by him, there being but a single negative result in seventy successive cases. Baumgarten thinks it is safe to assume a single cause for pneumonia. In Wolff's cases verification was established by cultures in more than half the cases.

The first investigations were made after death, but later authors have examined sputa and exudations from the lungs. Monti examined the exuded fluid in twenty cases, with but one negative result. Sometimes the Fränkel diplococcus was found in company with other bacteria. In these cases of Monti, Friedländer's micrococcus was not seen. Inoculation of fifty-nine rabbits, while universally successful, produced typical pneumonia only when the sputum was introduced into the trachea. Inoculation under the skin produces septicæmia; into the pleura, pleurisy; into the pericardium, pericarditis. Inoculation into the dura mater of a dog produced meningitis and lobar pneumonia. Fränkel, Foa, Whittaker, and others have shown that the cause of pneumonia is not confined to the lungs, but invades other organs and tissues. Weichselbaum, Netter, Mircoli, and others, have found the diplococcus, after pneumonia, in the ventricles of the brain, connective tissue of the mediastinum, and in that about the clavicle, in the cavities about the nose, and in the drum-cavity and labyrinth of the ear. It has been cultivated from the serum of the pericardium, before there were any visible signs of inflammation. It has been found, likewise, in inflammations of the spinal cord.

Emmerich found great numbers of bacteria of the varieties here referred to under the floor of a hospital ward where many cases of pneumonia had been treated.

Writing in regard to pneumonia proper, Weichselbaum sums up his conclusions as follows:

1. "The bacteria found in different forms of pulmonary inflammation are regarded as the cause of them. This conclusion is completely justified on the following grounds: Definite, well-characterized species of bacteria not only occur constantly in acute pulmonary inflammations, but can be demonstrated in greatest abundance and activity in the earlier stages of inflammations. They have been isolated, cultivated, and, when introduced into certain animals, have produced processes which,

<sup>1</sup> Read before the Illinois State Medical Society, May, 1890.

taking them *in toto*, correspond to inflammation of the lung in man.

2. "The pulmonic virus is no unity, inasmuch as acute pulmonary inflammations, even croupous pneumonia proper, can be produced by different kinds of bacteria. In this the pneumonias recall acute inflammation of the connective tissue, in which several species of organisms occur.

3. "The separation of pneumonias into lobular and lobar, croupous and non-croupous, has an anatomical, but no etiological significance. Moreover, the so-called secondary pneumonias, etiologically considered, are not secondary.

4. "The diplococcus pneumonia is to be regarded as the most frequent exciter of inflammation of the lungs. Friedländer's bacillus but rarely causes croupous pneumonia. 'Catching cold' has only a possible predisposing effect."

This summary is, perhaps, a clear representation of the opinion held by the majority, of bacteriologists at least, at the present time. The opinions of general practitioners are universally more conservative than those of specialists, and many able physicians still hesitate to accept the theories and radical views of some bacteriologists. It is well known that there is much study devoted to this subject at the present time, and many investigations have been made during the past year, but, perhaps, nothing can be added to the stock of knowledge or opinions detailed above. Dr. F. S. Billings, of Chicago, informs me that nothing new has been discovered; and as his personal views correspond with those of most other bacteriologists, I will quote his own words: "Personally, I do not think either the Weichselbaum, Fränkel, or Friedländer organism has any specific relation to pneumonia in man." He gives as a reason or basis for this opinion, "That they are present in the mouths of healthy individuals, and do not cause pneumonia, and have also been found attached to the bronchial mucosa of persons killed by accident or dying with intact lungs;" but he further states that, "When active and prolonged congestion with serous bronchial effusion is present, then they may cause pneumonia."

When an epidemic of a disease caused by bacteria occurs it is said that the air is filled with them. Professor Nussbaum has stated that during an epidemic of cholera the air is filled with cholera bacilli, and yet only one per cent. of the population is affected by the disease. Hence ninety-nine people in every hundred, though eating, drinking, and breathing cholera bacilli escape the disease. Such may well be believed to be the case with the bacillus of pneumonia, though it must be less powerful in its activities than that of cholera.

It is well known that pneumonia is more prevalent in some seasons than others, and that it occurs most frequently under certain atmospheric conditions. Perhaps most cases occur during the winter and spring months. The humidity of the atmosphere and the presence of ozone also seem to

exert a causative influence. On October 12, 1889, at Waukegan, Ill., the wind was in the southwest; it suddenly changed to the northeast, the temperature fell from 70° to 50°, and the ozone in the atmosphere was increased. Several cases of catarrhal pneumonia occurred, the apparent cause being the change in the condition of the atmosphere. I noticed, however, that during the same period, many cases of pneumonia were reported in other localities. On February 15, 1890, the wind was in the southwest; the temperature rose from 30° to 65°; ozone was not marked; the atmosphere was humid, and there were several cases of pneumonia. From April 1st to 5th the wind was mostly from the east and southeast, it was rainy and warmer, the temperature varying from 40° to 65°. New cases of pneumonia developed. Such observations are prone to make one believe that atmospheric changes are causative of the disease. Jaccoud, while not denying the etiological influence of bacteria, holds that exposure to cold is also causative, and perhaps generally the exciting cause.

Dr. Baker demonstrated before the Brooklyn Pathological Society that the curve representative of sickness from pneumonia pretty regularly followed the curve of temperature. His studies extended over many years and included nearly fifty thousand cases of pneumonia. He showed, in all his references, "that the sickness curve follows the temperature curve, not only in pneumonia, but also in bronchitis. If pneumonia were due to bacteriological influence, this cause must certainly be influenced by the weather, and more than that, bronchitis would probably be caused by the same germ."

Sevestre considers that certain cases of endemic and epidemic broncho-pneumonia in children during the summer months are due to dietary indiscretion, the inflammation extending to the lungs from the intestines through the lymph-channels.

Tomasi, Golgi, and others believe pneumonia to be sometimes caused by malarial poison, and this view corresponds with that of the physicians in the southern part of Illinois and other malarial districts in the United States, where this form of the disease is called "winter fever."

Dr. Mosny reported to the Academy of Medicine of Paris a case of broncho-pneumonia in a woman who had been nursing a patient with erysipelas. The patient died, and the examination of the exudation in the lungs revealed the fact that the pneumococcus was not present, but that the streptococcus erysipelas was, showing that the disease in this case was not caused by the bacillus of pneumonia.

At present it must be admitted that the cause of pneumonia is not fully determined, and probably the majority of physicians are not willing to accept



the bacillus theory. It is unproven that the bacillus is not a concomitant rather than the cause of the disease. Future investigations must make the final decision, and probably we shall not wait long before the decision is made.

It has been hoped that the germ theory of disease might lead to specific medication, and it may justly be anticipated, if this theory is true, that absolute cure of many diseases may be promised as soon as germicides are discovered which will kill the germs without injuring the patient. Is this possible? At present we do not know. So far as pneumonia is concerned, the knowledge or lack of knowledge of the presence of pneumococci is of no importance in the treatment of the disease.

In the present state of our knowledge the following indications for the treatment are clear: (1) To equalize the circulation and diminish the determination of blood to the lungs. (2) To reduce the temperature of the body. (3) To sustain the patient's strength. (4) To assist the mucous membranes and organs of secretion and excretion in the performance of their functions. (5) To allay pain.

The first two of these indications are met by the same general treatment. The chief object is to control the high temperature, and this is largely accomplished by reducing the blood-pressure and allaying the excitability of an overworked heart. For these indications I use aconite, gelsemium, or digitalis, according to the grade of the fever and the condition of the lungs, the heart, and the stomach. In high fever, with strong, bounding pulse, I use aconite and add gelsemium if there is irritable stomach with or without headache. Petresco says that digitalis may check pneumonia at the outset. It is of value in asthenic cases and where the heart is weak. Convallaria is sometimes advantageously substituted when digitalis is not well borne.

I have not been favorably impressed with antipyrine nor with antifebrin, and of late have not given them. Dr. Humphreys remarks that antipyrine should not generally be given in catarrhal pneumonia nor in lobar pneumonia when there is oedema of the lungs.

Quinine is usually serviceable, and in malarial cases is essential, not only to reduce temperature, but also as a germicide and antiperiodic. But in some cases it has a bad effect upon the stomach and nervous system. Dr. Jacobi believes that quinine lessens pulmonary congestion and strengthens the heart's action. Alcohol, brandy or whiskey in large doses will help to reduce temperature and equalize the circulation. It has seemed to me that the alcohol secures this result by its action on the vaso-motor system. I have also seen most beneficial results from early blistering with cantharides, which not

only alleviates pain but assists in controlling the congestion.

Liebermeister advises bloodletting when there is oedema of the lungs; but I believe this may be avoided by blistering and the use of digitalis. He is also much in favor of the cold bath, given preferably in the evening. There is no doubt that a wise use of the bath—tepid or cold, as circumstances may require—assists in reducing temperature and has a restorative rather than a debilitating effect.

In many sthenic cases tartar emetic seems to be of special value. Bruckner has reported over seventy cases treated with this drug, in which the success was so marked as to make him enthusiastically in favor of the remedy.

An ice-bag to the head and affected portion of the lung, as recommended by Angel Money, may be used with success, and often gives great comfort to the patient; but, like the baths, it must be used systematically. Money says that the ice-bag acts as a tonic to the heart, to the nervous system, to the muscular system, and to the respiratory centres. It thus aids in the third indication, maintaining the patient's strength. It soothes the motor and sensory systems, and in this way produces sleep.

For the difficult breathing likely to occur on the fifth day, with small and rapid pulse, perhaps nothing is better than camphor, benzoic acid, or valerian. Alcohol in large doses is also beneficial. The inhalation of carbonic acid in broncho-pneumonia, as recommended by Dr. Lamallée, I have not used. The third indication—the maintenance of the patient's strength—is accomplished chiefly by nourishment. With Fräntzel I recommend absolute rest in bed and liquid nourishment. The patient should be well fed from the beginning. For thirst, lemonade, and mineral and vegetable acids are refrigerant and assist the digestive process. I generally use aromatic sulphuric acid, believing that it may have a salutary influence upon the stomach, liver, and pancreas, and that it aids digestion and assimilation of food.

The secretory functions should be carefully observed, and aid should be given to the mucous membrane of the lungs, to the liver, kidneys, pancreas, and alimentary canal. Ipecacuanha is an invaluable remedy as a stimulant to the mucous membranes and to the liver. Aromatic sulphuric acid is a stimulant to the pancreas, and is of especial value in cases with typhoid symptoms. Digitalis and potassium nitrate are excellent renal stimulants. Mercury, in some form and in small doses, as a stimulant to the liver and intestinal canal is very useful. I prefer the mercury and chalk mixture given for a few days, and then followed by muriate of ammonium.

Pain must be controlled, and for this nothing can

take the place of opium. I am in the habit, in uncomplicated cases, of giving the following prescription:

R.—Sulphate of quinine . . . 30 grains.  
 Dover's powder . . . 40 "  
 Mercury with chalk . . . 20 "  
 Mix and divide in 10 capsules.

This dose is for an adult and is varied to suit the patient and his diseased condition. I give it at intervals of four hours. This prescription assists in controlling the congestion, acts as a heart tonic, aids the patient in expectorating, assists the liver and intestinal canal in the performance of their functions, alleviates pain, and, if the Dover's powder is made with the nitrate instead of the sulphate of potassium, stimulates the kidneys.

**PERFORATIVE APPENDICITIS, WITH REPORT  
 OF A CASE TREATED BY LAPAROTOMY.<sup>1</sup>**

BY SCHUYLER C. GRAVES, M.D.,  
 VISITING SURGEON TO ST. MARKS AND THE U. S. A. HOSPITALS,  
 GRAND RAPIDS, MICH.

THE search of the followers of de Soto in the land of flowers for the fountain of perpetual youth forcibly illustrates the yearning of human nature for continued health and happiness. The fountain of youth could not, and never can be, found; but with the astonishing progress of the science and art of medicine and surgery within the past quarter of a century the search for health has become far less discouraging and its discovery very much more possible.

Theories may oft-times be interesting, but facts are always the great *desiderata* in the practice of the healing art.

It is needless to say that facts which have a direct bearing upon the life or death of human beings are of the most vital moment to both patient and surgeon. The surgeon cannot learn too much in regard to them, and he should not fail to profit by the experience of other surgeons who are engaged in the same investigations.

The subject of appendicitis has, of late, attracted world-wide attention in the medical profession. Abdominal surgery in general, and intestinal surgery in particular, have made wonderful strides within the last decade, principally, we are proud to say, through the labors of American surgeons, notably those of Senn and of Parkes.

The terms typhlitis, perityphlitis, and paratyphlitis, although sometimes correctly applied to morbid conditions, have long been surgical misnomers, for what has seemed to be an inflammation of, around or behind the cæcum, has undoubtedly, in the majority of instances, been an inflammation of the ap-

pendix vermiformis. This little organ, rudimentary in its capacity for good, seems to be thoroughly developed in its capacity for evil. Often with slight provocation it takes on a destructive inflammatory activity—an inflammation with an ulcerative tendency—which, very frequently and more or less rapidly, leads to perforation with subsequent intraperitoneal complications of the gravest nature. I say frequently, for we know that inflammation of a purely catarrhal type does occur, although, according to Musser, even this mild inflammation may at any time become ulcerative, subsequently perforating.

The substances which act as the immediate cause of the disease will almost always be found fecal in character, although, as Musser states, foreign bodies, such as "buttons, bristles, worms, shot, pins, and gall-stones," have been observed. To this list might be added the seed of the grape, lemon, and orange, as well as that of other small-seeded fruit. In regard to the finding of these causative bodies, either before or after death, Greig Smith<sup>1</sup> says that "of 125 cases collected by Dr. Fenwick, in 55 a foreign body was found."

An obstruction of whatsoever nature having occluded the mouth of the appendix, irritation is set up. This is followed by increased secretion on the part of the mucous glands and by the constantly accumulating products of the inflammation which soon supervenes. Unfortunately ulceration is initiated, perforation takes place, and the distended organ gives up its burden of purulent fluid. While these destructive processes, however, are going on in the appendix, nature is busy with constructive processes with the evident aim of limiting the mischief and preventing infection of the general peritoneal cavity. Protective inflammation glues together the intestines in the region of the disease-focus and builds a wall of lymph to oppose and confine the septic matters soon to escape from the appendix. If now adhesive inflammation permits the discharge of the pent-up fluids through a neighboring hollow viscus, or if this protective process be carried to such an extent as to allow the "pointing" of the abscess externally we have a fortunate, natural termination of the trouble; but, unfortunately, we have too often been called upon to witness the breaking of the protective wall and, a few hours later, the death of the patient from general septic peritonitis.

There are three types of the disease: First, the acute; second, the subacute; and, third, the chronic. The duration in all the types varies from one day to several years, and the subacute and chronic forms may undergo an acute termination at any time.

<sup>1</sup> Read before the Michigan State Medical Society, July 19, 1890.

<sup>1</sup> Abdominal Surgery, second edition, page 72.

The following are the chief symptoms: Pain, generally commencing and continuing in the right iliac region, and varying in intensity and area according to the condition within; tenderness, usually pronounced; rapid wiry pulse; temperature low— $101^{\circ}$ – $102^{\circ}$ ; pinched features; decided sweating; occasionally vomiting; tympanites, generally marked; frequently cedema of the iliac region and inguinal tumefaction. These symptoms and signs vary with the type of the disease. Frequently no tumefaction can be detected, and I have seen well-marked cases, such as are mentioned by Pepper, which manifested no dullness on percussion.

The gravity of the prognosis depends upon the degree and kind of mischief present. But how can this be accurately determined? I maintain that it is practically impossible to make this all-important differentiation. Pepper has said that "if the prominence, induration and dullness are marked, delay is safe, especially if rectal examination does not indicate any fulness on the right side of the roof of the pelvis." "If this is present," he goes on to say, "it indicates an amount of exudation which will probably end in abscess and is a strong indication for operation." And yet in the case about to be reported rectal examination indicated absolutely nothing; but the operation revealed a condition of affairs amply justifying the procedure, and showed the location of the abscess to be approachable by the rectal route.

Rules for the employment of operative procedures, unless it be in the purely chronic forms, cannot be laid down. Our judgment, based upon personal experience and the results of other operators, must be the guide. The practice of using the aspirator needle in order to establish the presence or absence of pus cannot, in my estimation, be too strongly condemned.

There is one class of cases—the chronic—which should, perhaps, receive further notice in this paper: cases where successive attacks are followed by periods of immunity, frequently lasting for several months. These cases are associated with a chronic disorder of the appendix, without perforation, which undergoes exacerbations and remissions from slight and sometimes unaccountable causes, thus placing the life of the patient in constant jeopardy. This matter has been freely discussed and there is still a difference of opinion in the profession concerning it. Shrady is one of others who believe that each recurrence often, and perhaps generally, tends to remove still further the possibility of a rupture by adding to the mass of protecting inflammatory exudate already present. There is also reported a type of cases where, after repeated recurrent symptoms, the patients having died of other causes, post-mortem inspection has revealed nothing whatever

abnormal in the appearance or condition of the appendix.

But while such testimony cannot be gainsaid, there is plenty of evidence, on the other hand, in regard to cases where both ante- and post-mortem examinations have shown free appendices distended with pus and ulcerated in spots through the mucous to the peritoneal coat. No remarks are necessary in regard to the wisdom of operating in such instances. The question is: How are we to diagnose them? How to differentiate?

There is but one way open to us, and that is in cases of doubt to make an exploratory incision. It does not follow that because the abdomen has been opened in these chronic cases the appendix should necessarily be removed. In such cases as the above it is, of course, the only thing to do; but where the organ is firmly imbedded in a mass of adhesions, requiring difficult and tedious dissection, with imminent danger of tearing into a contiguous coil of intestine, it would be wiser to refrain from attempts at excision, and to be satisfied with flushing, and establishing proper drainage.

A history of two or three recurrences in any particular case would not justify operative interference; but repeated attacks, sufficient in number to embarrass seriously business obligations, or occurring in individuals whose duties frequently compel their sojourn in regions where surgical skill cannot be obtained, particularly if we realize the liability to hepatic abscess and phlebitis from the continued presence of a disease-nidus connected with the portal system, justify an intermediate operation. Such is the doctrine of Weir, Bull, and others, and I consider it sound philosophy.

The medical treatment of acute and subacute cases I leave untouched; but the operative, as well as the medical details will be mentioned in the report of the case which follows:

S. M., aged eighteen years; employed in a furniture factory; taken sick on the afternoon of April 13th. The next morning the family called Dr. H. E. Locher, who kindly furnished the following report:

"Was called to see the patient on the morning of April 14th, and found him suffering from severe pain in the right iliac region. Patient stated that the pain had come on suddenly after dinner the day before. Pulse 105; temperature  $101^{\circ}$  F. He had vomited frequently during the previous afternoon and evening. Examination located the pain in the ileo-cæcal region. I questioned the patient closely in regard to his actions prior to the seizure, whether he had done any heavy lifting, wrestling, etc.; but the only fact of importance was a history of having gone some distance from the factory during the noon hour, in consequence of which, fearing that he might be late in getting to his work again, he ran very rapidly part of the way back. Shortly



after returning the pain came on and grew more and more intense until it compelled him to leave his work and go home in the middle of the afternoon.

"Judging from the history and circumstances of the case, the diagnosis pointed to some form of intestinal obstruction near the ileo-cæcal valve, possibly a volvulus, or to a commencing appendicitis from the lodgement and impaction of partially digested or other matter in the appendix.

"Treatment at that time was as follows: Bismuth subnitrate and Dover's powder in moderate doses every four hours and potassium bromide,gelsemium, and morphine oftener. Hot fomentations over right iliac region. Ordered a small dose of castor oil to be given if pain became markedly less.

"*April 15.* Patient considerably better; continued treatment as before; also ordered mustard poultice to affected region and more castor oil, inasmuch as the bowels had not yet moved. Patient suffered much during the afternoon and evening, which was thought might be due, in part at least, to the effect of the oil. Pulse at evening 110; temperature 101° F.

"*16th.* Was much better; bowels had moved three times during the night and tenderness in the affected region was considerably diminished. Pulse 96; temperature normal; tongue had been slightly reddened, but this morning had a white coating. Bismuth and Dover's powders continued and patient ordered to remain in bed, inasmuch as several attempts at getting up had materially increased the pain.

"Did not see patient again, but was told by a member of the family on the next day, April 17th, that the boy was much better."

On the evening of this day, April 17th, Dr. Eugene Boise was called to attend the case. He states that he found the patient with a temperature of 101.5° F. and a pulse of 110; dry tongue; abdomen swollen and tender; great pain in region of appendix; pinched features, etc. Morphine, quinine, hot fomentations, and general supporting treatment ordered. Appendicitis was diagnosed.

Matters ran along until the afternoon of April 19th, when the writer was called by Dr. Boise. The diagnosis of perforative appendicitis was confirmed and operation advised.

As the family desired the counsel of Dr. George K. Johnson before proceeding to such a measure, the matter was deferred and a consultation was not held until the afternoon of Sunday, the 20th. This consultation resulted in the opinion that if patient was not better by morning the abdomen should be opened. Morning came, the patient was no better, and preparations for the operation were made. Thus, valuable time had been lost, and the operation was undertaken without much hope of saving the patient's life. However, surgery offered a better chance than medicine, and hence was chosen in the dilemma.

*Operation* on morning of April 21st. The physicians present were Drs. George K. Johnson, Eugene Boise, D. M. Greene, R. H. Spencer, C. A. Johnson, and the writer, all of Grand Rapids, and H. Boss, of Zeeland, Mich.

Through the courtesy of Dr. Boise and with his valuable assistance, as well as that of the other physicians present, the writer operated.

Patient was anæsthetized with ether in his bed, and then transferred to a table in the adjoining room. The abdomen was cleansed with hydronaphthol soap, shaved, douched with bichloride solution (1 to 2000), and surrounded by towels wrung from hot sublimate solution. Chloroform was then substituted for ether. An incision three inches long (afterward increased to four inches) was made over the cæcum, a little external to the right linea semilunaris. The different layers of tissue were divided by shallow strokes of the knife or upon the director. Hæmorrhage was slight and was controlled before entering abdomen. Peritoneum nicked, carefully enlarged to admit the index finger, and then divided with a probe-pointed bistoury to the extent of the wound. Great thickening of the peritoneum was observed.

The small intestines and omentum were strongly bound together by inflammatory exudation, necessitating careful tearing with the fingers to effect separation. At this point a gush of pus indicated the proximity of the expected abscess.

A strong fæcal odor was manifest. The point where the pus had welled up was cautiously enlarged and the cavity of the abscess freely opened. Upon passing the finger into the sac a foreign substance, about the size of a small hazel-nut, and which afterward proved to be a fæcal concretion, was felt lying loose in the cavity.

Considerable difficulty was met with in the recognition of the various tissues on account of inflammatory deposits and the quite free oozing of blood, which resulted from the separation of adhesions in spite of the great gentleness with which this was done. All, however, was soon made clear, and the appendix was found lying upon the inner wall of the abscess, as is the rule in these cases. The distal half of the organ, as a result of destructive inflammation, was absent, and the fæcal concretion which had obstructed this portion of the appendix was free, as stated above, at the bottom of the sac. The proximal half of the appendix was freed from its adhesions, cut off close to the cæcum and the stump inverted and disposed of by the application of three Lembert sutures of fine aseptic silk.

Four gangrenous masses which had been observed, three of omentum and one of abscess-wall, were ligated with aseptic gut and removed.

Throughout the operation hot, boiled water was in almost constant use for flushing the sac and also the general peritoneal cavity, for a small portion of the appendix was within the abscess, thus communicating with the general cavity.

After tying a few vessels and flushing with hot water to check oozing, and to wash out any remaining débris, the boiled water returned quite colorless. Two rubber drains were then placed in position (one in abscess sac and the other in the general cavity) and the incision closed by a combination of aseptic silk and catgut sutures passed through all the layers of the abdominal wall, including the peritoneum. Several superficial sutures of catgut were taken, the

cavities were once more flushed with boiling water, and the usual antiseptic dressings applied.

The patient's pulse, at the close of the operation, was 150. He was put in bed, hot bottles placed at his feet, and morphine, atropine, and brandy administered hypodermically.

When consciousness returned he was ordered fluid extract of digitalis, 1 minim hourly, a half-teaspoonful of Armour's Beef Extract in a little hot water, every half hour, and a teacupful of warm milk, with a tablespoonful of brandy, every two hours.

At 5 P. M., four hours after the completion of the operation, his pulse was 130; temperature not taken.

At 10 o'clock P. M. pulse the same; nourishment and medicine had been retained; his skin was warm; facial perspiration much diminished. When asked how he felt he replied: "Better."

April 22, 8 A. M. Temperature during previous night ranged from 102° to 103°; pulse remained at 130 in spite of full doses of digitalis. Nourishment and stimulants were still retained. Urine was passed involuntarily several times during the night. 12 M. condition unchanged. Catheter introduced and considerable urine withdrawn. Patient was under the influence of morphine and was somewhat "flighty;" wound had a bad odor; cavities washed out with hot Thiersch's solution and fresh dressings applied. Patient evidently sinking. Death occurred rather suddenly at 2 P. M.

There was one serious objection to the performance of this operation, and that was the necessity of using a stuffy, upper room which could not be made aseptic. The parents would not tolerate the thought of having their son removed to a hospital.

I have reported this case because I deem it the duty of surgeons to make known the results of their operations regardless of the results, for otherwise statistics would be worthless.

In conclusion:

Although cases of perforative appendicitis do occasionally terminate favorably by means of adhesions to and discharge through neighboring hollow viscera, or by external pointing, can this very fortunate turn of affairs be counted upon in any individual case of the disease? Is it not wiser, where the symptoms do not abate in three or four days, to give the patient the benefit of surgery in time by performing an early laparotomy?

The operation itself, under antiseptic details, although not devoid of danger, is quite safe, and if nothing more is needed than the flushing of the abdominal cavity with hot, boiled water good cannot but be accomplished.

On the other hand, if the condition be such as to show the probability of a fatal termination if left to medical treatment alone, we have the advantage of an early opportunity to attack the disease before inflammatory and septic shock have

so exhausted the patient as to render our endeavors to save him from death vain and ineffectual.

Consideration of the facts associated with the foregoing case have caused the crystallization, in my mind, of two salient ideas:

1. The patient should be treated in a well-equipped hospital, if possible.
2. The operation should be performed early.

#### **SURGICAL AND MECHANICAL THERAPEUTICS IN DISEASES USUALLY TREATED BY MEDICINE ALONE.<sup>1</sup>**

BY GEORGE M. KREIDER, A.B., M.D.,  
OF SPRINGFIELD, ILL.

No fact is more patent nor more pleasing to the intelligent observer of our profession than the ever increasing use of surgical and mechanical appliances for the treatment of diseases formerly treated by medicines alone. The too great reliance which was placed on drugs in former years led to the most absurd theories concerning their action and influence, and resulted, after homeopathy and kindred dogmas had had their day, in a therapeutic nihilism quite as absurd and cruel as they. Mechanical methods of treatment are slowly but surely trenching on the domain of medicine, and together with that other benevolent giant, prevention, are destined to narrow down the effective use of drugs to a very small circle and to a very small number. Thorough knowledge of a disease simplifies the treatment of it. Scientific methods of investigation, and instruments for testing diseased organs and tissues supply this knowledge, and these methods and instruments are no longer ridiculed, but are the common property of all intelligent practitioners. One of the apparent dangers of practice now is, not that we are too conservative but are rather too prone to take up and laud new treatments before they have stood the all-important test of time.

All dropsies were formerly treated by diuretic or purgative medicines, later by palliative tappings, but now the wonders performed by the removal of the cause of many dropsies, ovarian tumors and kindred abdominal growths, are so common that they are no longer matters of discussion. I do not intend, in this paper, to touch on these well-known topics, but there are other methods of mechanical relief which are not so well known and of which I may be permitted to speak. For example, who would have thought a few years since of treating erysipelas by anything but large doses of drugs, or of relieving neuralgias of the fifth nerve by anything except hypnotics or sedatives. Hysteria was formerly the name given to all of the numerous nervous complaints of females, and was a term

<sup>1</sup> Read before Illinois State Medical Society, May, 1890.

of ridicule. It received no treatment, and its victim little sympathy, but now we find that mechanical treatment will remove most of the cases, and it becomes an interesting study to discover the cause and the methods of relief. It will be my object in this paper to give a *résumé* of the recent application of treatments other than medical which I have myself used and which I believe are too often overlooked and ignored.

First, let us take that most universal symptom of disease which we are called upon to treat—fever. The drug treatment of this has passed successively from quinine to antipyrine, from antipyrine to antifebrin, from antifebrin to phenacetin, and so on, aconite and veratrum included, to an unending number of aspirants for its complete conquest. For some years I have ceased to rely upon these drugs for the reduction of fever, or at least have only used them under protest and as adjuncts to the use of water, either by sponging, bathing, or the ice-coil. I need only mention here that my ideas on these methods have been fully detailed in other papers, namely: "The Treatment of Fever by the Ice-coil;" the "Treatment of Puerperal Fever by Disinfection of the Uterine Cavity and the Use of the Ice-coil;" and the "Treatment of Pneumonia by Tepid Baths." Since the reading of the last-named paper at Jacksonville I have treated all the cases of pneumonia coming under my care by bathing or sponging, and can reiterate with emphasis the conclusions then reached. I have also had renewed proofs of the value of the ice-coil in cases of fever in which it was either impossible or impracticable to use the bath. Up to the present time I have treated eighteen cases of puerperal fever by the method mentioned above, with two deaths.

At the last meeting of the Illinois State Medical Society the late lamented Dr. Alexander Darrah read a valuable paper on the prevention and treatment of summer diseases of children by cool baths, which confirmed me in my estimate of the value of baths. Other mechanical procedures in these cases of summer complaint may be used with good effect. For example, last June I was called to see a four-year-old child in the last stages of dysentery, which had been carefully and skilfully treated by the attending physicians. She had a dry tongue, bloody stools, high fever, and was greatly prostrated. Under these circumstances I suggested, and with the aid of her attending physicians carried out, thorough irrigation of the colon with a solution of boric acid, followed by a solution of tannic acid. From the time this treatment was commenced the child began to improve and made a perfect recovery. A case of more than usual interest where irrigation was effective in disease of another portion of the alimentary tract, is the following:

Mrs. B., aged sixty-nine, had suffered for some weeks with symptoms of gastric ulcer. For several months she had experienced burning sensations in the stomach, coming on a few hours after eating. Later she had repeated attacks of vomiting of alkaline mucus. These attacks became more and more frequent and protracted. Nausea was a constant symptom day and night unless she was quieted by medicines. Finally she vomited bloody mucus and clear blood, and her condition became extremely serious. She rejected all food, and life was sustained by enemata. To quiet the intense pains six ounces of chloroform were inhaled every twenty-four hours. At this time my advice was given by telegraph to irrigate the stomach. Irrigation was delayed by the fear of her attending physicians that she was too weak to endure the operation of passing the tube to the stomach. As a last resort lavage was finally made, and from the hour of its employment improvement in her condition began and continued, after repetitions of the lavage, to her complete restoration to health.

A return of the symptoms some eleven months later does not vitiate the value of the treatment. I have been urged by those acquainted with the history of this case to make known this treatment of gastric ulcer, cancer, or dilatation for the benefit of those members of the profession who are possibly not cognizant of its value. Dr. Bodman, of Toledo, O., who was acquainted with the history and treatment of this case, writes that it certainly saved her life.

The attention of the profession has been frequently called to the fact that a tight prepuce may so affect the nervous system as to produce reflex disturbances of a serious nature. I have had some interesting cases of nervous disturbances arising from this source, which were, of course, relieved by the operation of circumcision. In one case talipes varus existed, but disappeared within a week after circumcision. In another case there was partial paralysis of the lower extremities, which was recovered from soon after the operation. Slighter forms of irritation from this cause are so often overlooked and the patients treated for something else, that I make it a rule to examine all male children suffering from nervous disturbances, for this disability.

A frequent cause of nervous disturbance is to be found in errors of refraction. In a paper read at a meeting of the District Medical Society I detailed some of my experiences with this difficulty and its relief by properly fitted glasses. Since reading that paper I have had one case in which, apparently, spasm of the bladder was caused by eyestrain, or at least, this symptom has become less frequent since the proper glasses were used. In another instance chorea was cured by the same means.

Speaking of neuralgia reminds me of the numer-



ous cases which I have seen, where suppuration of the middle ear was treated for neuralgia until the mastoid cells were invaded and dangerous complications existed. Of course these mistakes were due to ignorance or carelessness, but such ignorance is frequently shown and serves me to emphasize a point which should be made prominent, viz.: that all practitioners should be so familiar with the instruments for making exact diagnoses, and with the proper mechanical treatment, that such mistakes may become impossible.

Many of the diseases of the ear can be relieved by mechanical treatment only, and a majority of the operations are such as the general practitioner should be able to perform. Perhaps he may not operate so rapidly or skilfully as the specialist, but just as effectually.

A change in the treatment of erysipelas has already been hinted at, and the new method is doubtless well known to most of my readers. Instead of large doses of chloride of iron, an anæsthetic is given, the affected part is surrounded by slight scarifications, and an antiseptic lotion is applied. By this treatment the disease can usually be made to disappear within twenty-four hours.

Speaking of diseases of the skin recalls the importance of destroying all suspicious growths in their very incipency. Every surgeon has had patients who have been advised by their family physician to refrain from having anything done with excrescences or tumors, which have afterward gone on to the formation of most painful and dangerous cancers. Very few growths can be said to be without danger, and even if they are harmless, they usually produce mental worry, which causes the patient to resort to all sorts of quacks and quack remedies for his relief. By a full statement of the possibilities of the case the ready consent of the patient to their removal can usually be gained, while at the same time any groundless fears may be calmed by the assurance of the lack of danger if removed early. At the present time cancers and similar growths can be best cured by being extirpated in the very earliest stage, and this possibility should not be denied to suffering humanity by such advice as "Do not hurt the growth until it hurts you," or "Let well enough alone."

Diphtheria, tonsillitis, and their results can usually be better treated with the assistance of mechanical methods than by internal medication alone. In tonsillitis the endeavor should be to disinfect each crypt by passing to its bottom a fine probe coated with antiseptic lotion, and, when a case is thus early treated, I believe much serious trouble can be prevented. After the early stage is passed I find that the steam spray can be used with great advantage. I have the record of one case of diphtheria

treated with success in this way. That it was genuine diphtheria was proven by the paralysis which followed. A most interesting case of this character was that of my colleague, Dr. O. B. Babcock, of Rochester. While attending a case of fatal scarlatinal diphtheria he himself became infected with the poison. In a very short time, despite the use of medicines, douches, syringes, sprays, and incisions, his condition became dangerous. The soft palate touched the pharynx, and the œdema of the tonsils was so great that, notwithstanding removal of the uvula, he was left without adequate breathing space. The incisions and the stump of the uvula remained perfectly dry, and the tissues were as tense and brawny as a board. In this extreme condition I secured a gasoline stove, a tea-kettle, and a piece of tin spouting. The stove was placed near the bed and the steam conveyed through the spouting in large quantities to the patient's mouth. So great was the resolving and relaxing effect of the hot vapor that very soon the exudate came through the cut surfaces in large quantities and in due time a cure was effected. By the use of medicines alone this case would undoubtedly have been fatal. I cannot leave the discussion of this region without referring to the excellent progress which has been made in the treatment of catarrhs and nasal diseases by the various modern operations and mechanical procedures. How many cases of deafness, scrofula, anæmia, and narrow chest can now be cured by the removal of adenoid vegetations in the pharynx and of hypertrophied tonsils which medicines will absolutely fail to relieve? I have in several instances been called on to treat cases of chronic hoarseness which were due to growths on the vocal cords, and were, of course, curable by local treatment only, and yet had been treated for months and weeks by internal medicines. O'Dwyer's inventions, and the tracheal tubes used in tracheotomy, are modern mechanical improvements in the treatment of diseases which were formerly palliated by medicines alone.

Pleurisy which has gone on to effusion is now no longer treated experimentally for the reabsorption of the fluid, but the cavity is drained by surgical and mechanical means, and a failure to cure is the exception. Typhlitis and obstruction of the bowel are boldly attacked, and although my own record in this class of cases is not encouraging, I recognize the fact that my failures are due to too late operations, or to the difficulties in diagnosis or treatment which others have overcome and which I hope to conquer in the future.

The same statement may be made concerning my experience in the diagnosis and treatment of brain and spinal-cord diseases. I have endeavored to apply the proper treatment in two cases of brain disease, one of which I here report.

CASE.—Mr. H. E., aged thirty-two years, clerk. Seen with Dr. Ryan. On rising from a stooping position in a cellar, his head struck a timber with great force, and he was stunned and nauseated by the jar. He continued at work for some days, but was obliged to stop for a part of each day because of pains and dizziness. About ten days after the receipt of the injury, at an early hour of the morning, we were called to see him. The family had been aroused by hearing him fall heavily on the floor, and when they reached him he was in a stupor from which he could not be awakened. No history of the injury could be obtained at this time, but later the history and symptoms made a diagnosis of abscess possible. The symptoms were headache on the right side of the head, vomiting, paralysis or weakness of the left side, hesitation in answering questions, involuntary passage of urine and feces, and gradually increasing coma. There was a choked disk on the right side. As the paralysis of the side was general, we were unable to locate the abscess. The patient being in a state of profound coma, the cranium was trephined over the motor centres and a hollow needle passed in different directions. The pus was either not reached or else it was so thick that it would not flow, and the patient died unrelieved. The post-mortem examination on the following day revealed a large abscess in the region of the parieto-occipital fissure which had broken into the third ventricle and caused death.

Did time permit I might detail the benefits of suspension and other mechanical treatments of spinal and spinal cord diseases; the effects of hot water in gynecological practice; of early incisions in bone diseases, and of numerous other measures not less worthy of discussion, but I will conclude with the following summary:

1. That mechanical and surgical measures are the most certain in our armamentarium and are only now assuming their proper position.
2. That when called to see a case of disease the first aim of the practitioner should be to determine, by proper examination and research, whether some mechanical or surgical appliance cannot be used in conjunction with or in place of medical treatment.
3. That the "do something" which this action implies will be more uniform in its results, more successful in its curative effects, and more pleasing to the patient than the "think something" treatment, which tries every medicine by turns and nothing long, and hopes for beneficial results.
4. That the ability to use exact appliances for the examination of patients and treatment of disease should be possessed by every one attempting to practise, and that this ability is only to be obtained by preliminary training and clinical instruction.
5. That treatment of disease in this manner has a tendency to elevate the profession in the eyes of the public, and to dissipate nonsensical sects which divide the profession and waste its energies.

## CLINICAL MEMORANDA.

### OBSTETRICAL.

#### *A Plea for the Term "Heart-failure," with Notes of a Case.*

—Of late, registry bureaus, coroners' clerks, and closet pathologists, have refused to accept the term "heart-failure" as a sufficient cause of death, and the physician who dares to sign his certificates in such a manner is regarded as uncertain in his diagnosis and a stranger to modern pathology; but, on behalf of clinical experience, I venture to make a plea for the actuality of heart-failure, without pathological lesions sufficient to explain it, and I report the following somewhat unusual clinical history and result of autopsy, in support of the heresy.

Mrs. C., a multipara, aged forty years, who had not required the services of a physician in any capacity since her last confinement, found herself pregnant January, 1889, with her third child. On Wednesday, July 17th, I was called to see her, and found her with preparations made for a confinement, which she had expected to occur between the 15th and 20th. Questioning revealed that there had been a few very slight pains, active foetal movement, abundant "show," and the passage of some clots. There had been oedema of limbs, but it had disappeared; there was no vertigo, nor vomiting; urine was passed freely; the pulse was 76, full and strong, and the respiration was clear and normal. Examination revealed obliteration of cervix; a closed but dilatable os; the foetus presenting by the head, and the uterus well contracted upon its contents. With instructions to the patient to send for her nurse and for me, at the first appearance of actual labor, I left her, and was called again on Friday, about 6 P.M.

At this visit I found the os about the size of a silver quarter; head presenting; membranes intact, and I felt what seemed to be a thickened anterior lip of the os. The patient had felt some slight pains, and said she had had very profuse bleeding an hour or two before. Her color was good, and her pulse normal. Instructing the nurse to keep careful watch over the symptoms, and particularly for bleeding, I again left, to be re-summoned about 10 P.M., from which time I remained with the patient.

Patient had complained of faintness, profuse bleeding, and slight infrequent pains. Examination revealed several large clots about the os, which was dilated to the size of a silver dollar. Within the anterior margin of the os was found a soft, smooth mass, which was readily pushed up between the head and the anterior lip. Diagnosis: marginal placenta prævia.

Consultation was called, but on the arrival of the consultant the head had been descending upon the os, so that the thickened mass was not discoverable; and, as bleeding had stopped, and the patient's condition was good, it was not deemed expedient to enter the uterine cavity for purposes of exploration. Pulse 72 and strong; uterus conforming well to its contents. Foetal movements felt by patient. I ordered fluid extract of ergot, one drachm, and tamponed the vagina. From this time, 12.30 A.M., labor progressed. Pains were of short duration, but increased in frequency and strength. No hæmorrhage; patient warm and comfortable. Complained of some faintness, but there was no "yawning,"

and the pulse remained so full and slow, that we were inclined to regard the amount of hæmorrhage as having been exaggerated.

At 3 30 A.M. the patient was doing well, the pains increasing in power, and characteristic of the second stage of labor—patient somewhat hysterical. Foetal head found descending. At 4 o'clock, on examining the patient, the head was found in the hollow of sacrum, and the perineum relaxed. About this time the pains suddenly ceased, the patient asked for a drink, and complained of feeling faint. Pulse fading, extremities cold, countenance distressed and pale. Patient put her hand over the region of the heart. Heat was promptly applied to the extremities and spine, the pillows were removed, and brandy and aromatic ammonia given. The first heart-sound could not be heard, the breathing became more rapid, and the patient suddenly died about 4.15 A.M.

To save the child, version by the feet was then speedily and easily performed, but the child was dead. The placenta was purposely left within the uterine cavity.

*Autopsy*, made at 4 P.M., by Dr. J. W. Brooks, coroner's physician. Heart normal. Uterus contained no more blood than would normally appear after abstracting a child from a non-contracting cavity. The placenta was still adherent, and the inferior margin stretched slightly across the anterior lip of the os. The only pathological lesion was an interstitial nephritis, the capsule being somewhat adherent to the kidney.

The physician who performed the autopsy, declared that the lesions were suggestive of either coma or convulsions, but the symptoms were against such a conclusion. The patient was conscious to the last, and not a muscle was at any time convulsed (unless it were the heart).

Now, of what did the patient die? Not from bleeding, pure and simple, for the pulse remained good for two and more hours after bleeding had ceased. There were no evidences of blood-poisoning—nothing but giving out of the heart's power after a not excessive hæmorrhage. Respiration even continued after the radial pulse was lost to the touch. To elucidate our pathology, this patient ought to have had coma or convulsions, but three witnesses failed to observe either condition; or she ought to have had some valvular lesion, but there was none. However, her heart *did* grow weak in its action, and she *did* die.

FRANK W. THOMAS, M.D.

6 MT. AIRY AV., GERMANTOWN, PENNA.

## MEDICAL PROGRESS.

*Thiersch's Method of Skin-grafting*.—DR. IVAN FOMIN, of St. Petersburg, reports eighteen cases in which he used Thiersch's method of skin-grafting (*Vratch*, No. 11, 1890). The author carried out the method as follows: The surface of a crural ulcer, for example, is dressed with compresses wrung from a 1-to-5000 solution of corrosive sublimate until complete cleansing of the granulating surface has taken place—usually in from three to seven days. On the day of the operation the entire limb is washed with soap and water and an antiseptic lotion, after which a syringe of a 4-per-cent. solution of cocaine is injected in the neighborhood of the ulcer, and the latter is carefully scraped away, with a sharp spoon,

down to the muscle or fascia. After this a bandage to arrest hæmorrhage is applied and left in place for from half an hour to two hours. Next, thin cutaneous strips, measuring about five or six inches in length and two and a half in width, are sliced, with a sharp razor, usually from the patient's arm, which should have been thoroughly disinfected. This step of the operation may be rendered painless by giving a hypodermic injection of cocaine. The strips are then moistened with a 1-per-cent. solution of carbolic acid and placed on the ulcer, not only the entire surface being covered, but the healthy skin slightly overlapped. The grafts are then carefully dried with absorbent cotton, dusted with a thin layer of iodoform, and covered with fenestrated strips of protective, which overlap each other like tiles. The whole is then dressed with antiseptic material and the limb immobilized.

The results obtained by Dr. Fomin are excellent—even most extensive and obstinate ulcers healing in a few weeks.—*Annals of Surgery*, July, 1890.

*Diabetes following Resection of the Pancreas*.—VON MERING and MINOWSKI have undertaken a series of experiments upon extirpation of the pancreas as a cause of diabetes (*Archiv f. experimentelle Pathologie*). The operations were performed under strict antiseptic precautions, and were followed by permanent diabetes, resembling the severest form of the disease in man. The animals became very hungry and thirsty, but, though well fed, emaciated rapidly. If even a small part of the pancreas was allowed to remain, diabetes did not follow, showing that the disease was not due to traumatism, but to the absence of the pancreas. The authors think that their experiments prove that one of the functions of the pancreas is destruction of sugar, either if introduced from without or formed within the body. As an additional proof of this, if grape sugar is given to an animal which has lost the pancreas, the whole of the sugar can be recovered from the urine.

DOMINICUS, of Italy, has also made a series of similar experiments, and with much the same results, but he concludes that the diabetes is caused only indirectly by the loss of the pancreas, the immediate cause being the disturbances of digestion produced.—*Centralblatt f. klinische Medicin*, June 7, 1890.

*Prescription for Vomiting of Pregnancy*.—According to the *Canada Medical Record*, M. HUBERT uses the following mixture to relieve the vomiting of pregnancy:

R.—Tincture of iodine . . . 6 drops.  
Potassium iodide . . . 1½ drachms.  
Distilled water . . . 4½ ounces.—M.

One teaspoonful three times daily.

*Treatment of Erysipelas*.—The *Weekly Medical Review* quotes the following prescription used by KOCH in the treatment of erysipelas:

R.—Creolin . . . . . 1 part.  
Iodoform . . . . . 4 parts.  
Lanolin . . . . . 10 " —M.

This ointment is painted on the diseased parts by means of a soft brush and covered with gutta-percha tissue.



**HALLOPEAU** applies compresses saturated with a 1-to-20 solution of sodium salicylate, and, to prevent evaporation, covered with impervious tissue.

**WÖLFLE** uses mechanical compression by means of adhesive-plaster straps, applied on the healthy skin and surrounding the diseased area.

**The Treatment of Uterine Cancer.**—**MR. F. B. JESSETT** writes (*British Gynecological Journal*, May, 1890) upon the treatment of cancer of the uterus as follows:

**Palliative** treatment is adopted in cases of advanced disease. By means of it much may be done to relieve suffering, to arrest the rapid progress of the disease, and to improve the general health. The vagina should be thoroughly syringed with "sanitas" or some other antiseptic lotion through a full-sized speculum; then, with pieces of cotton-wool, the cavity should be wiped out as far as possible, removing all debris and loose sloughs; a tampon of cotton-wool soaked in equal parts of pinus canadensis and glycerin, or smeared with an ointment composed of one ounce of sanitas oil, ten grains of chloride of zinc, and an ounce of vaseline, should be introduced into the cavity; this should be used night and morning, the vagina being syringed out each time, and the cavity wiped with cotton-wool before the insertion of fresh tampons. By adopting this simple plan of treatment the sloughs become dislodged and a clean ulcerated surface exposed. All offensive smell will disappear, and the pain and vesical irritation be much decreased. The disease will be considerably retarded in its growth, the patient's appetite returns and the general health improves, doubtless owing to the non-absorption of the poisonous discharge. Perfect rest should be insisted on, and the general health attended to by the administration of appropriate tonics; and if pain is present and prevents sleep, small doses of morphine may be advantageously given. It may be added that no success has attended the use of any drug given for the purpose of arresting the disease.

In attempting a **radical** cure the case must have been seen early, while the uterus is still freely movable, and before the vaginal walls have become involved. When the vaginal portion of the uterus is alone affected, amputation of the cervix by means of scissors is recommended. Caustics in this, and other forms, are unreliable.

When cancer involves the cervical portion of the canal, the disease should be removed by cutting away a conical portion of the uterus beyond the disease. This method the author prefers to the total extirpation of the organ—an operation which he cannot at present bring himself to adopt. Total extirpation may, however, be performed in suitable cases when disease in the body of the uterus has been early recognized. In removing the conical portion the operation closely resembles the high amputation of the cervix. The vagina around the cervix is snipped with blunt-pointed scissors, and the vaginal mucous membrane and tissues beneath pushed up as far as possible. The uterine tissues are then divided by short snips with the scissors, the part to be removed being, at the same time, firmly pulled down by a vulsellum. In this way the diseased tissues may be removed, even to the fundus.—*Medical Chronicle*, July, 1890.

**India-rubber Iodoform Plaster.**—**The American Druggist** quotes the following prescription for the preparation of a 20-per-cent. iodoform plaster:

R.—Dammar resin . . . . .	15 parts.
Benzoated tallow . . . . .	30 "
Lanolin . . . . .	20 "
Caoutchouc . . . . .	5 "
Glycerin . . . . .	10 "
Iodoform . . . . .	20 "

The resin is melted by heat, then the tallow is added, and the whole is strained through several layers of gauze. With this mass, while still liquid, the caoutchouc in solution and the lanolin are incorporated. The iodoform is triturated with the glycerin, and added after the mass has somewhat cooled.

The caoutchouc solution is prepared by dissolving flake India-rubber in five times its weight of benzine.

**Hydronaphthol as an Intestinal Antiseptic.**—**DR. J. MITCHELL CLARKE** (*Practitioner*, July, 1890) reports a series of experiments to determine the influence of hydronaphthol on digestion and its value as an antiseptic in the treatment of intestinal diseases. He concludes that to patients on an absolute milk diet the drug can be given without fear of seriously interfering with digestion; but that if gastric disturbances are produced they are probably due to retardation of peptic digestion and to the accumulation of curds in the stomach. Under the latter circumstances, perhaps under all, it is advisable to give the drug in pill-form coated with keratin in order that it will not be set free before reaching the intestine. For adults, Dr. Clarke thinks a dose of two or three grains given every two hours sufficient. In diarrhoeas the intervals may be increased after the first few doses. For children under one year the dose is half a grain.

Five cases of typhoid fever were treated with hydronaphthol by the author. All did well, though two were severe, and at the beginning had profuse diarrhoea which ceased soon after the treatment was instituted. In two less severe cases diarrhoea was also quickly checked, and it was noticed that the stools soon lost their offensive odor. In the treatment of the summer diarrhoeas of infants the drug also seemed to be of benefit. In one case of dysenteric diarrhoea which had lasted for five weeks with from twenty-five to thirty stools daily, a milk diet and the administration of hydronaphthol was followed in four days by great improvement, the stools being reduced to four daily. In thirteen days the patient was cured.

One case of tubercular diarrhoea and several cases of ordinary diarrhoea from indiscretions in diet also yielded to the administration of the drug.

[It is obvious that the observations are too few for positive conclusions, but the apparently good results certainly warrant a more extended trial of hydronaphthol as an intestinal antiseptic.—ED.]

**The Treatment of Burns of the Eye.**—**DR. A. TROUSSEAU** (*Recueil d'Ophthalmologie*, No. 8, 1890) recommends, in burns of the eye by acids, free irrigation with cold water, followed by compresses soaked in an alkaline lotion or Vichy-water, and placed over the half-closed

lids. If the pain is severe the compresses should be alternated with ice-poultices, which give great relief and often prevent inflammation. In injuries caused by caustic alkalies, the cornea and conjunctival *culs-de-sac* must be thoroughly irrigated and foreign bodies carefully removed. The after-treatment should consist in copious instillations of a  $\frac{1}{2}$ -per-cent. solution of carbolic acid. Lime burns are especially serious in their subsequent effects, as they rapidly destroy the corneal tissues, and by their escharotic effect on the conjunctiva are apt to produce contraction and symblepharon. These sequelæ may, to a great extent, be prevented by freely washing with a very dilute acid solution, or by Gosselin's method of syringing the eye with sugar-water, with the object of forming a soluble saccharate of lime.

Burns by molten metal are best treated by the removal of metallic fragments, which are usually firmly embedded in the tissues, followed by compresses soaked in boric or carbolic acid lotion. In every case a drop of atropine solution should be used.—*Medical Chronicle*, July, 1890.

**The Treatment of Diphtheria.**—In an interesting and able paper upon the treatment of diphtheria, DR. MANUEL HERRERA, of Guanajay, Cuba (*Revista de Ciencias Médicas*, Havana, April 20, 1890), strongly condemns the removal of the false membranæ, even if the larynx is involved. For the treatment of the disease he relies on general and local measures, and advocates the following, as leading to the best results. He seldom uses ipecacuanha, but usually employs quinine and calomel continuously in doses of fifteen grains and one and a half grains, respectively, during the twenty-four hours, stopping the latter drug when the first symptoms of ptialism appear. The use of calomel, however, is resumed; and should the mercurial effects return, they are checked with chlorate of potassium, internally; and thus a continuous mercurial saturation of the system is maintained, without the danger of a stomatitis that would, undoubtedly, aggravate the primary disorder.

Dr. Herrera particularly lays stress upon the local treatment proposed by him. For this purpose he employs iodoform, cocaine, hydrochloric acid, camphor, mercurial ointment, and extract of belladonna, with the best results. Thirty-four cases, of the worst type, reported in his article, entirely recovered under this local treatment. Dr. Herrera's prescriptions are as follows:

1. R.—Sulphate of quinine . . . 30 grains.  
Calomel . . . 3 "

Divide into ten powders, and give one every two hours until five are taken.

2. R.—Iodoform . . . 75 grains.  
Saccharated lime . . .  $2\frac{1}{2}$  drachms.  
Cocaine hydrochlorate . . 4 grains.  
Camphor . . . 15 "

To be dusted over the membrane, by means of an insufflator, every five hours.

3. R.—Hydrochloric acid } of each 75 minims.  
Distilled water }

To be applied locally, three times a day, by means of a camel's-hair brush.

4. R.—Mercurial ointment . . .  $7\frac{1}{2}$  drachms.  
Extract of belladonna } of each 75 grains.  
Iodoform }
- For external application.

**The Modes of Administering Cardiac Tonics.**—The therapeutics of cardiac affections has been greatly advanced recently, not only by the addition of numerous cardiac tonics to our list of remedies, but also by the acquirement of important details in the administration of the older remedies, by which their efficiency has been greatly advanced.

GAUTHIER, especially, has devoted himself to the study of this subject, and an analysis of his work, as published in the *Wiener medizinische Blätter* of May 22, 1890, is well worthy of notice.

As is well known, the administration of digitalis in the form of powder or pill is apt to produce vomiting or diarrhoea. The best form is that of an infusion made by macerating the digitalis leaves, and, when time permits, it is this preparation which should always be used as the one which gives the most prolonged and intense action on the heart, and which is most efficacious in producing diuresis. The infusion should be given in gradually decreasing doses. Digitalin is by no means a constant preparation, and it does not possess all the properties of the digitalis leaves. Nevertheless, the crystallized digitalin is of use where an extremely rapid action is desired, although ordinarily its action is too intense, and, therefore, dangerous, while its subcutaneous employment is extremely painful, and often produces abscesses.

Convallaria is also best employed in the form of an infusion, 8 to 10 parts being macerated in 1000 of water, to which syrup may be added, and administered the day in which it is made.

Convallarine, the active principle, may be employed in doses of  $\frac{1}{6}$  to  $\frac{3}{4}$  or 1  $\frac{1}{2}$  grains.

Strophanthus is best given in the tincture (the one official in the English Codex being the best) in 5-drop doses three times daily, although 10 to 20 drops may be given once or twice in the twenty-four hours in a single dose.

Adonis may be employed in the form of an infusion or decoction, or its active principle, adonidine, may be given. The infusion seems to be inconstant in its activity, and both of the watery preparations have an extremely bitter taste, which must be masked by syrup. Adonidine may be given in the quantity of from  $\frac{1}{6}$  to  $\frac{1}{2}$  grain in twenty-four hours. Its toxic action is ten times greater than that of digitalis. Caffeine is likewise a reliable remedy, provided it is given in sufficient dose, 15 to 30 grains being ordinarily required. This dose should, however, not be exceeded without great care, as in larger quantities it is not free from danger.

The salts of caffeine are nearly insoluble in water, and are, therefore, not suitable for subcutaneous injections, although the double salt—the benzoate of sodium and caffeine—is an exceedingly valuable preparation. Sparteine may be used, either in the form of an infusion or decoction of the plant; or its active principle, sulphate of sparteine, may be employed, the latter being especially valuable for its action on the heart in doses of from  $\frac{3}{4}$  to 4 grains, while the infusion possesses marked diuretic properties.—*Therapeutic Gazette*, July, 1890.

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## DIABETES MELLITUS.

ONE of the features that will mark the present era of medicine is the earnest endeavor to classify diseases with regard to their etiology and pathology rather than to their symptomatology. Constantly do we find ourselves able to apply a more fitting and accurate name to various groups of symptoms, and to assign to them a proper place in our nosological tables. Not merely this, but only by striking at the ultimate pathological cause can the true and rational treatment be properly conceived of and instituted.

The name diabetes mellitus has answered the purpose of designating a condition the most obvious and constant sign of which is the excretion of large quantities of saccharine urine; but the comfortable idea that in *all* cases this symptom is due to disturbance of the vaso-motor supply of the liver, must give place to more definite views, and undoubtedly ere long we shall find that there are many lesions capable of producing, and having as a common symptom, the excretion of sugar in the urine. In that case diabetes mellitus may occupy the same position as a diagnostic term as do other symptomatic phenomena — albuminuria, convulsions, coma, and fever.

In the *Medico-Chirurgical Transactions* for 1833 Bright reported a case of jaundice in which fatty

stools occurred and "the urine had a sweet taste," and at the autopsy there was found a scirrhous mass occupying the head of the pancreas. In 1877 Longstreth exhibited a specimen of cystic disease of the pancreas from a case of diabetes mellitus, while similar cases have lately been recorded by W. T. Bull and J. A. Nichols. Many authors speak of the presence of hypertrophy and sclerosis of the pancreas in these cases. In the Middleton-Goldsmith Lecture of 1889 R. H. Fitz quoted a case, reported by Frison (*Marseille Médicale*, 1875), of multiple pancreatic abscesses which presented sugar in the urine during life.

It is clear, however, that we have not as yet arrived at the precise conditions or lesions of the pancreas capable of causing or being frequently associated with the appearance of sugar in the urine. This is shown by the numerous cases of cystic and other pancreatic disease reported by Fitz in the lecture above mentioned, wherein glycosuria was not present, while Langenhaus has lately reported a case dying of necrosis of the pancreas without the presence of sugar in the urine.

Von Mering took the initial step in the way of experimental determination of the position occupied by the pancreas in the production of glycosuria. In dogs from which he had removed the pancreas he found an abundance of sugar in the urine. That this phenomenon was not due to the withdrawal of pancreatic digestion was shown by the negative result if but a small portion of the pancreas were allowed to remain. M. Lépine went a step further. On comparing the blood of a healthy dog with that from a dog whose pancreas had been previously removed, he found an excess of sugar in the latter, which excess was much more slowly broken up than in the blood from a dog whose pancreas had not been removed. On the addition of starch to the two specimens it was found that the blood from the dog whose pancreas had not been removed produced more glucose than did the blood of the dog so operated upon. From these experimental facts he deduces the theory that, owing to the absence of a ferment produced by the pancreas, and whose duty it is to destroy sugar in the blood, glycolysis takes place to a less extent than glycogenesis, with the result of the presence of an excess of sugar in the blood and the excretion of sugar in the urine.

There must still remain, however, many cases of diabetes mellitus independent of pancreatic disease. The frequent occurrence of glycosuria in various



cerebral lesions is well known, while a sufficient number of cases of diabetes mellitus following prolonged anxiety or sudden shock are recorded to cause these to rank as etiological factors. Many authors have recognized the relation between the gouty diathesis and diabetes mellitus.

It is manifest that glycosuria may be a symptom of many conditions and of diverse lesions. To what number these may in time be limited cannot be premised, but by the studies of von Mering, Minkowski, and Lépine, our knowledge has been much broadened. By careful observation it may be possible in the future to recognize during life various causes for the symptom of saccharine urine, and undoubtedly different plans of treatment will be followed according to the causative condition. M. Lépine has already followed up his experimental work by administering pilocarpine, as a pancreatic stimulant, to a few cases of diabetes mellitus, and, although his cases have been too few to give reliable data, he has had enough success by its use to warrant further investigations in the same line.

## CORRESPONDENCE.

### THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

To the Editor of THE MEDICAL NEWS,

SIR: Among almost one thousand guests now enjoying the 2700 feet of elevation and grand outlook of this mountain resort, the fifty members and others present to attend the meeting of the American Ophthalmological Society would attract little attention. At certain times they might be seen conversing in groups on the veranda or in the corridors of the hotel, but during the sessions there are but few absentees, and yesterday they held three sessions. To-day (July 17th) they have completed the consideration of the thirty-five papers brought before them, several of which started animated and prolonged discussions. This afternoon the Society concluded with the consideration of a fine salmon, sent by an absent member, and as his representative most cordially taken in by the Society as a whole, through its individual members.

In executive session, which seems to be guarded by as much secrecy as that of the United States Senate, we learn that three or four new members were elected, and that one name was stricken from the roll.

Of more general interest is the fact that the Society suspended the by-law fixing its time of meeting, and next year will hold its regular meeting in Washington at the time of the meeting of the Second Congress of American Physicians and Surgeons.

It will be remembered that in the year of the first Congress the Society held its regular meeting as usual in July, and a rather small special meeting for the Congress; being then unwilling even for once to give up its midsummer meeting in some cool, quiet summer resort.

This time more interest is exhibited in the Congress, and an effort is to be made to secure the presence of prominent European ophthalmologists, and their participation in the meeting.

Of general interest were two cases reported by Dr. William F. Norris, and one by Dr. C. A. Oliver, of brain tumor, recognized and located almost entirely by eye-symptoms, the diagnosis being in each case confirmed by autopsy.

Dr. George C. Harlan reported a transient amblyopia and bitemporal hemianopsia in a case of malarial cachexia, in which, other treatment failing, full doses of quinine quickly brought relief.

Cataract extraction is a subject of perennial interest to the ophthalmic surgeon. And an animated discussion was started by a paper on the so-called simple extraction, by Dr. Charles S. Bull, in which he re-affirmed his conviction that it was the best operation for the removal of the opaque lens in a large majority of cases of ordinary senile cataract. This opinion was shared by some of his fellow members, but was not held by quite a number of others.

Much has been said of the advantages of the small, mobile pupil secured by simple extraction. But the small *immovable* pupil, due to iritic adhesions, is of such frequent occurrence as to increase decidedly the risk attending the simple extraction, and to offset its other advantages. It is not claimed to be applicable to all cases; but when successfully performed in a proper case is an almost ideal surgical procedure.

Dr. H. Derby reported a family in which two brothers and a sister and eight out of ten of their children were affected with congenital zonular cataract. There was no history of convulsions in early infancy in any case.

Dr. T. R. Pooley and Dr. R. A. Reeve reported cases of removal of large ivory exostoses from the inner wall of the orbit: and Drs. William F. Norris and L. H. Taylor cases of large foreign bodies lodged for some time in the orbit.

Dr. C. E. Rider, under the head of the "Winking Test," called attention to the strong tendency to wink, or close alone, the abnormal eye, much more readily than the normal, where there was an appreciable difference between the visual acuteness of the two. This he proposed to have used as a test when it was desirable to ascertain which had formerly been the worse eye, as in advanced double cataract, or malingering, or when decided inferiority in the vision of one eye has been recently discovered. The test is, however, scarcely applicable to women, because very many, who have visual acuteness about equal in both eyes, are still unable to wink with either eye separately. No explanation was given of this sexual difference.

Disorders of the ocular muscles were discussed at length in connection with a paper by Dr. H. D. Noyes on the treatment of muscular asthenopia and its results. Graduated tenotomy seemed to be less in favor than in the past two years, and the use of prisms more generally relied on.

A committee on the prevention of blindness found that in this, as in other civilized countries, about 20 per cent. of all blindness is caused by ophthalmia neonatorum.

The general adoption was urged of a law recently enacted in New York, requiring midwives and others to

notify in six hours some health officer, or legalized practitioner of medicine, should inflammation of the eyes of a newborn infant be noticed.

Several speakers testified to the value of the Cr  d   method of dropping into the eyes a 2-per-cent. solution of silver nitrate immediately after birth.

Drs. W. F. Mittendorf and O. F. Wadsworth reported cases of embolism of the central artery of the retina, with the retention of good vision at the macula, by reason of its being supplied by cilio-retinal vessels quite unaffected by the embolism.

Dr. William H. Carmalt reported two cases of sarcoma of the conjunctiva, and two of glioma of the retina. In one of the latter both eyes were removed, and there had been no recurrence. In the other the growth was so soft, and pus-like in consistence, that its nature was not recognized until it recurred, after the enucleation of the affected eye. Death occurred from extension of the growth to the brain.

Cases of remarkably good vision in spite of age and hyperopia were reported by Dr. S. Theobald; and a group of cases of increasing hyperopic astigmatism by Dr. Edward Jackson. These latter cases are rare, but they do occur, and it should be borne in mind that astigmatism sometimes changes.

Dr. Harlan described a new operation for keeping the lid free in symblepharon, by replacing its conjunctival surface by a sliding flap of skin.

Dr. B. A. Randall argued that we have no evidence that hyperopia can be healthfully outgrown; the prevalent idea that it is generally outgrown being quite incorrect and unsupported by facts.

Dr. F. M. Wilson exhibited three specimens of *filaria oculi humani*, taken from just beneath the skin of the lids of a missionary who had acquired the parasite on the West Coast of Africa. The worm is very frequent on a certain limited portion of the coast. It is most frequently seen just beneath the ocular conjunctiva, and not, as has been asserted, in the anterior chamber of the eye.

Dr. C. W. Kollock reported two cases of a new form of xerosis occurring in colored children, marked by an elevated ring around the margin of the cornea, and quite amenable to general tonic treatment. He also reported two anomalous cases of glaucoma, in one of which the tension quickly rose after an iridectomy, and though unaffected by weak solutions of eserine was promptly reduced by a strong solution. The other occurred in an eye the seat of monocular h  morrhagic albuminuric neuroretinitis.

The Society, in accordance with its custom, continues in office its officers, viz.: President, Hasket Derby, M.D., of Boston; Vice-president, G. C. Harlan, M.D., of Philadelphia; Secretary and Treasurer, S. B. St. John, M.D., of Hartford.

HOTEL KAATERSKILL, July 17, 1890.

#### “THE ETIOLOGY AND TREATMENT OF MIGRAINE.”

To the Editor of THE MEDICAL NEWS,

SIR: Having been very favorably impressed with the exhaustive and scholarly article by Dr. Wharton Sinkler upon “The Etiology and Treatment of Migraine” in

THE MEDICAL NEWS of July 19th, and believing that, when considered as a disease, too much attention is given to its treatment, I should like permission to offer some suggestions calculated to throw a different light upon the subject, treating it rather as a symptom than as a disease. In the closing paragraph of Dr. Sinkler’s paper migraine as a symptom is merely referred to, and, for the most part, the treatment is confined to the exhibition of drugs, or the use of local measures, such as electricity. That my views are entitled to consideration will be apparent from a quotation from the paper, which runs as follows: “Most authors now agree as to the prime importance of hygienic measures in connection with any remedy used for the relief of this disease. Removal from care and work, with fresh air, good food, and change of climate, will do more to relieve the frequency of the attacks than any drug.”

Taking this quotation as a text, together with the assumption that migraine is a symptom of disease, the general practitioner will be interested in knowing the methods to be pursued for the purpose of removing the underlying cause of these derangements of the nervous system; and, by way of introduction, I may repeat the time-worn maxim that such attacks are generally due to an impoverished condition of the system, and that neuralgia is the cry of the nerves for pure blood. We not infrequently meet with cases of an  mia with neuralgia, which we have learned to speak of as the an  mia of plethora, and, in these it has been found empirically that purgatives are useful. Still, I doubt if a very large proportion of the physicians who come to this decision and who successfully follow this practice, could give a rational explanation of the *modus operandi* by which the good results are secured. The modern practitioner regards the success of the doctor of a generation ago as somewhat enigmatical, considering the liberal use of purgatives which was the custom of that period; and in calling attention to the treatment of migraine as a symptom of disease, I hope to be able to clear up this matter, so that hereafter purgatives may be used intelligently and in accordance with well-known scientific principles.

The question will be better understood by the presentation of cases in which the cause of the disorder is made apparent, and from which appropriate deductions can be drawn, and the matter settled beyond dispute. For example, does any modern physician doubt the causative relation existing between derangements of the digestive apparatus and attacks of cholera morbus? The disease known as cholera infantum is so closely related to cholera morbus that it ought to be included in the same category, and, without undue stretch of the imagination, the list might be extended by including such specific diseases as typhoid fever, an  mia, and chlorosis, and, in not a few instances, consumption. In regard to the latter disease, I cannot accept the modern theory that the bacillus tuberculosis bears a direct causative relation, but is rather in the nature of an incidental complication. In proof of this assumption, I have but to point to the very large number of persons who suffer for years from what is termed “general debility,” but finally the bacilli, finding a suitable nidus for their development, take possession of the tissues. With the rapid multiplication of the germs, and the dis-

tribution of the poisons derived therefrom, the patient begins to sink, and is accordingly treated for pulmonary tuberculosis. No one doubts, now, that many of these patients, if properly treated in time, or, in other words, if those "measures of prime importance" had been adopted, would have recovered, and consumption have been avoided. Without going further into this question, my impression is, that these diseases are, for the most part, due to disorders of digestion, and that by proper attention to diet, including, of course, hygienic measures and climatic treatment, a fatal issue may be indefinitely postponed, if not altogether avoided.

It will be argued that migraine occurs too frequently to be placed in this classification, and that if the proposition is true, other nerves should show derangements of a like character; but upon reflection, and the elimination of those direct causes pointed out by Dr. Sinkler, which may easily be traced, I think the point will be conceded as well taken. In the case of typhoid fever, for example, what observing physician has not witnessed patients who *walked* themselves into the disease? How many patients can the active country practitioner recall, within the period of a year, who have persistently violated his advice and have finally contracted the disease? On the other hand, he is able, at the same time, to point out a number who have carefully complied with his directions and have escaped.

As a rule, it will be found that those who suffer from migraine are under-fed. Notwithstanding that they take a seat at the table three times daily, and apparently enjoy their food, something is wanting either in the primary or secondary assimilation, and this peculiar pain is the result. When there is a rheumatic tendency, it may appear in the form of intercostal neuralgia, or sciatica, or one or more of the joints may be affected. At other times these manifestations will be in the form of fugitive pains, which appear to have no local habitation. The number of persons who suffer from rheumatic tendencies is daily increasing, and it would be difficult to find one of these who does not suffer more or less from indigestion and from acidity of the stomach.

To meet these demands, quite a number of remedies suggest themselves. The most natural conclusion is, that all our troubles will vanish after the introduction of alkalies into the system, but a more specious fallacy was never promulgated, and yet many physicians cling to it with wonderful persistence. Others believe that the difficulty may be overcome by the introduction of acid into the stomach shortly before meals, on the theory that this will lessen the secretion of the acid juice of the normal stomach, and notwithstanding the scientific basis for its employment, the results have been anything but satisfactory. The advocacy of the digestive ferments, together with the temporary benefits which they confer when judiciously used, has furnished employment to hundreds of men, and large manufacturing establishments have sprung up for the exclusive manufacture of these products. Unfortunately, these measures furnish but transient relief. The general use of pancreatic ferments has had a tendency to enable us to locate with more certainty the real causes which combine to produce this abnormal condition, and for this reason I have to suggest that the diet is of the utmost importance.

A few words in relation to the diet will suffice to start

the reader in the proper channel of investigation, as it will be impossible in this letter to touch upon the details which naturally present themselves to the thoughtful physician. Attacks of migraine should always be regarded suspiciously, owing to their dependence upon an unhealthy condition of the alimentary tract. While the tongue may offer no indications of mal-assimilation, the history of the onset of the attacks will frequently point to intestinal indigestion, and the most certain method consists in cutting off all foods which have a tendency to cause fermentation after reaching the small intestine. All starchy foods, sweets, and pastry, must be eliminated from the dietary, and the patient compelled to subsist entirely upon properly cooked beef or mutton, to which may be added a little stale bread or toast. When not specially contra-indicated, a little tea, coffee, or cocoa may be permitted with meals. The results of treatment will be manifest in the course of a week or ten days, providing that the patient is not compelled to work too hard, and is placed under favorable hygienic conditions. Without attention to food, clothing, air, and exercise, medication of whatever sort is but palliative.

For the emergency, to relieve the pain and place the patient in a favorable condition, I cannot speak too highly of an assayed preparation of cannabis indica, and in order to present the method of administration in practical form, will record the following illustrative case:

About two months ago, while on professional business in the country, thirty miles from the city, I was compelled to remain during the night, and in the evening was requested to prescribe for a housemaid, aged thirty-five years. This patient had been suffering for nearly three weeks from a most stubborn attack of migraine, which had obstinately resisted the domestic remedies, as well as drugs. The pain was persistent both night and day, and for many nights she had not been able to obtain any rest until four or five o'clock in the morning. The condition of the digestive apparatus was unfavorable, although she had eaten but little food during the time of her illness. There was no history of uterine trouble, and no indications of decayed teeth to account for the persistence of the attack.

At ten o'clock this patient was placed upon the following mixture:

R.—Extract of cannabis indica (Normal Liquid)	5 drops.
Water	4 ounces.

One teaspoonful was given every ten minutes for one hour. At the expiration of the hour the patient returned to say that she began to feel better after taking the second dose, and that now she felt quite well and perfectly free from pain. As a result, she had a good night's rest, and experienced no symptoms of a return until after sunrise next morning, when there was slight pain on the affected side. She was instructed to take one teaspoonful of the mixture at intervals of an hour during the day, and a restricted dietary was ordered. In addition to this treatment, she was advised to take  $\frac{1}{100}$  grain of the arsenite of copper after each meal for five days, and it affords me pleasure to add that the patient rapidly recovered, and has had no further symptoms of migraine.

The circumstances connected with this case were somewhat peculiar. She was living in the country,



where the air was especially bracing; her food was well cooked, and she had an abundance of everything that was wholesome; the work was neither hard nor confining, and apparently there was no earthly reason why she should suffer when all the others in the house enjoyed perfect health. Having seen so many cases of this character yield promptly to this treatment, it would be a waste of time to describe others. I should add, in conclusion, that the arsenite of copper was exhibited for its supposed alterative and antiseptic effects, especially where we have to deal with an unhealthy condition of the alimentary canal, a suggestion which will be appreciated by many who have difficulty in getting patients to take drugs with a disagreeable taste. Clinical observation warrants me in saying that it is a remedy of great utility in this class of cases.

JOHN AULDE, M.D.

1910 ARCH STREET, PHILADELPHIA.

#### ATLANTA vs. CHATTANOOGA.

To the Editor of THE MEDICAL NEWS,

SIR: I have just read Dr. Baird's polite communication in THE MEDICAL NEWS of July 5th, under the title of "Typhoid Fever in Chattanooga," and feel constrained to make the following reply:

Notwithstanding Dr. Baird's gratuitous interpretation of the "official records of the Chattanooga Board of Health," and his abiding faith in the old saying that "figures won't lie," the remarkable immunity in this city from enteric or typhoid fever, diphtheria and scarlet fever, is precisely as stated in my paper read before the Association of American Physicians, and published in THE MEDICAL NEWS of June 7th.

I submit, in much kindness, that Dr. Baird's own experience as Health Officer of Atlanta should have thoroughly convinced him by this time of the unwelcome truth that the average death-certificate is an unknown quantity, and of all things in this world the most unreliable. Health officers cannot "go behind the returns," no matter how doubtful the correctness of the certificate may be, they must, *volens volens*, report accordingly.

Dr. Baird has fairly stated that 107 deaths from typhoid fever represent, probably, more than 1000 cases of the disease in any given community where it prevails; yet I doubt if any physician could be found in Chattanooga who would venture the statement that there have been 100 cases of typhoid fever in this city "during the last four years." The occurrence of 50 cases, or less, would have furnished enough seed—if the situation were not a sterile soil—to cover the ground, and make the disease so common that there could be no difference of opinion concerning its presence. And is it possible for one to believe that 1000 cases of the disease could have occurred, within four successive years, without attracting the special attention of the local medical profession, and alarming the whole community?

When the population of Chattanooga is alluded to by the Health Department, the thriving suburban communities of East Lake, East End, Ridgedale, St. Elmo, Hill City, Sherman Heights, Highland Park, etc.—aggregating a population of 15,000 or 16,000—are not included. In fact the census just completed show that

in the city's limits proper, the population does not exceed 32,500; and it is upon this basis that the Health Department must begin the new decade. The correction as to population makes the "official records" all the more unreliable; for who, indeed, can believe that within the limit of such a population typhoid fever could be so common, yet unknown clinically to such an extent that there are several physicians of large experience in practice in Chattanooga who have not seen a case?

But however disappointing to the pride of enthusiastic Chattanoogaans that our boasted "60,000 population," including the suburban centres, has been reduced to less than 50,000, the happy truth remains that the city is remarkable for its almost entire immunity from typhoid fever, diphtheria, and scarlet fever, thus maintaining a most wholesome contrast with all other American cities in public health, and holding, especially, its advantage over Atlanta.

Very soon after my return from the meeting of the Association of American Physicians, the Chattanooga *Daily Times* gave notice of the presence of typhoid fever in some of the outlying districts, with two deaths from the disease; whereupon, at the next meeting of the City Medical Society, I called attention to the newspaper report, and said, if it was true, it flatly contradicted the statement I had made in my paper. In the interest of medical truth, I urged a closer study of the question, if possible, than had hitherto been given it, asserting that it was not complimentary to the medical profession of Chattanooga that there should exist a difference of opinion on the subject. In the same spirit, I addressed the President of the City Board of Health, calling his attention to the newspaper reports above named, and asked for the facts. Here is his reply:

CHATTANOOGA, TENN., June 12, 1890.

DR. JAMES E. REEVES, M.D.,

DEAR SIR: Your kind note of yesterday received. Allow me to say that the *squib* in the *Times* of yesterday was without my approval, and quite a surprise to me. Since my residence in Chattanooga, I have been very sceptical as to the existence of typhoid fever in the city.

Very respectfully, J. L. GASTON.

The question of the infrequency of typhoid fever in Chattanooga is not a new one, but has, again and again, been discussed in the City Medical Society—called up usually by the report of a "rare case." Within the last few weeks, the "official figures"—for which Dr. Baird has so much respect—barely escaped recording another death from "typhoid fever." The case was, at first, thought to be one of "meningitis;" after a consultation, "typhoid fever." The patient expired suddenly and unexpectedly, and the post-mortem revealed a large hepatic abscess as the cause of death.

The "one physician, in active practice for more than thirty years," who has seen "only three or four cases within that period," is Dr. P. D. Sims, member of the State Board of Health and secretary of the City Board of Health. No one who knows Dr. Sims will doubt his ability to speak positively on this or any other subject connected with medical practice in Chattanooga. His professional standing, large experience in general practice, every quality to make his opinions and utterances command respect, outweigh the "random estimates of

individuals," and sufficiently attest the fact that typhoid fever is but rarely met with in Chattanooga; but why the immunity no physician is wise enough to tell.

Respectfully, JAMES E. REEVES.

201 McCallie Avenue, Chattanooga, Tenn.

## NEWS ITEMS.

**Orthopaedic Surgery at the Berlin Congress.**—Dr. Newton M. Shaffer, Chairman of the Orthopaedic Section of the New York Academy of Medicine, announces that a Section of Orthopaedic Surgery has been formed by the Committee of Organization of the approaching Berlin Congress. Members of the profession interested in this department of surgery are requested to be present at the Congress and to become members of the Section.

**Medico-legal Society of Chicago.**—At the annual meeting of the Medico-legal Society of Chicago, held June 7, 1890, the following officers were selected for the ensuing year: *President*, Dr. E. J. Doering; *Vice-Presidents*, Dr. B. Bettman and Judge O. H. Horton; *Treasurer*, Dr. L. L. McArthur; *Secretary*, Dr. Edward B. Weston.

**Case of Beri-beri.**—A case of beri-beri has recently been received at the Long Island College Hospital, to which institution it was removed from the Quarantine of New York Harbor. The disease is a very unusual one here, and this case presents itself in the person of a sailor on the German ship "Warns."

**Burial Reform in London.**—The dangerous overcrowding of the London cemeteries has been often commented on by the medical press of that city, but the evil remains almost wholly unabated. The Sanitary Committee of the London County Council has reported that no time should be lost in closing burial grounds such as the Brompton, which contains 155,000 bodies; and the Tower Hamlets Cemetery, with its 247,000 bodies crowded into only seventeen acres. The average grave is seven by three feet, and contains eight adults and fourteen children, the covering of earth being about one foot. In one instance, a committee of inquiry regarding this cemetery found eighty infants interred in a grave or trench of less dimensions than that of the average grave. There are twenty-one burial places, with a total extent of less than 300 acres, holding a million and a quarter of bodies. The soil in most of these places is clay, and the process of decomposition goes on so slowly that bodies buried for a dozen years remain remarkably well preserved. This unfortunate state of affairs, especially as seen in the overcrowding that takes place wherever the bodies of the poor are buried, is universally acknowledged to be a serious menace to the public health and to demand the prompt attention of the government.

**The Antisepsis of Oath Administration.**—The *British Medical Journal* states, under the title of "Kissing the Book," that the old-fashioned greasy book so often tendered in the law courts to a witness about to be sworn, is a source of danger that is fully recognized by some officials. For example, when the Duke of Fife appeared

lately at Stratford in a prosecution, the book on which he took the oath was enveloped in a piece of clean, white paper for his use, a precaution that might with advantage be more generally adopted. The *British Medical Journal* proceeds to ask, "Why should not the formula of the oath taken in our courts of justice be altered—possibly in imitation of the method in vogue in Scotland, which is that of raising the hand—in lieu of kissing the book?" Not long since a woman was a witness in a court in Philadelphia, and when taking the stand to testify refrained from kissing the dirty volume presented to her by the court officer, whereupon a juror objected to her testimony because, as he said, it was invalid and incomplete by reason of her omission of this time-honored ceremonial; but the judge ruled that an oath was valid without the kissing of the sacred volume, and that the kissing itself was a relic of idolatry that should be abolished. "I think," he said, "that this witness has refrained from kissing the book, not because she has any intention of giving false testimony, but because it is a dirty book. I respect her regard for her person and her health."

In almost every civilized country, people who have scruples against swearing are relieved from that formula by the simpler "affirmation" to the truth of their proposed testimony. Affirmation may be less impressive to certain classes, but it commends itself as a clean and safe method.

**Antivivisection Bitterness.**—The Society for the Protection of Animals from Vivisection recently held its annual Spring conference in London. The war-cry this year was "Pasteurism and Crime," and Canon Wilberforce is reported to have rejoiced in the fact that the movement to found a Pasteur Institute in England had been defeated by the society's method of placarding the city with large posters, containing the list of those who had died after treatment by the Pasteurian system. Many others indulged in bitter denunciation of both vivisection and Pasteurism, as being the means of brutalizing the otherwise honorable and useful profession of medicine. One speaker likened vivisection to the liquor traffic, and said that inasmuch as it would be impossible to regulate either by laws, they must be torn out root and branch. Other speakers said that they could prove by competent medical testimony that humanity had been injured by the attempt to apply the results of investigations made on the inferior animals. Altogether, much zeal, though but little knowledge, was exhibited by these people, who are friends to every animal but man.

### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 26, 1890.

STONE, L. H., *Assistant Surgeon*.—Ordered to the U. S. Receiving-ship "New Hampshire."

URIE, J. F., *Assistant Surgeon*.—Detached from the U. S. Receiving-ship "New Hampshire," and ordered to the U. S. Receiving-ship "Wabash."

NORTON, OLIVER D., *Passed Assistant Surgeon*.—Granted leave of absence for the month of August.

BABIN, H. J., *Surgeon*.—Granted one month's leave of absence from July 23d.